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LIVING OUTDOORS.

BY JULIA R. PEARCE.

WINTER seems to be a season of more or less sickness, usually assigned to the inclemency of weather. I suppose the weather might be rightly accused of being the cause in a few cases, but, perhaps, if we looked into the matter further, there would be other causes entering for which we might more rightly accuse our own dear selves. For instance, are we not too careful of these same precious selves? We shut ourselves up in the house, shiver at every breath of fresh air, are so afraid of the cold that we havn't the courage to dare the bath, needed so much more in winter than in summer, when perspiration keeps the pores open. We need more of outdoors, and the courage to face all kinds of weather. Perhaps not many are aware that on the banks of the Blue River, less than a dozen miles away, are many families living in tents and holes dug in the ground. Failure of crops drove them from their farms in Western Kansas and Nebraska; and they have taken their families with them, and going until work was found, have pitched their tents in sheltered nooks, or digging a hole in some friendly bank, covered it in true dug-out style and gone to work. This sounds hard, but I question if they are not ahead, even yet. They have not, like so many of us, slept in air-tight bed rooms, and hugged the fire in other air-tight rooms; and when spring comes, they'll not, like us, take to Mr. Blank's Sarsaparilla and sassafras tea.

Our ideas of living outdoors are usually confined to camping out a week or so in an occasional summer. The rest of our days and nights we spend within four walls. It's too cold in winter, and in summer it may rain; or it's too hot in the daytime, and at night there might be spiders, snakes, lizards, centipedes, and scorpions; so we stay indoors, where it's safe and dry; and every thing we touch is dead,—dead, dusty walls; the furniture has a dead, dry feeling; the air has been heated and dried so that it is thoroughly dead, and when set in motion only stirs up a little dry dust from carpet and walls; and we breathe this air until we feel like we were gradually being heated and dried into leather ourselves. The very essence of life is shriveling, and we long for the moist, pungent odor of mold, of cured, spicy leaves, and the thousand odors of the woods in summer. All outdoors seems to throb with a surplus of life, be it summer or winter, and one can scarcely pass through the woods without receiving a share, and the whole system responding with renewed vitality.

One feels infinite pity for those who spend their days indoors, summer and winter alike, either from necessity or inertia. Poor little house plants! If we want to see what we are like, we have only to go down into the cellar and look at the vine that has grown up in the corner of the bin of potatoes.

Most of us believe in outdoors in theory. We know we would be much better off to see and feel more of the great outdoor world. We have always dreamed of camping out some time. We see visions of leafy aisles, hear the clatter and rustle of the busy little inhabitants of the woods. We dream of lying on some shady slope and looking up through the leaves to see the white clouds sail over the little flick of blue sky; or of sleeping in a hammock and waking up in the night with the stars above us, we hear low, mysterious whisperings of the leaves overhead, then some little bird chirps discontentedly somewhere, and we cautiously turn in our unstable couch, and rising up, look about and see the moon going down; and as we watch it sink, the world grows darker and darker, and we are left alone with the night. A sense of utter solitude comes over us. A slightly perceptible breeze, a sign of coming morning, lifts the leaves and gently sways the hammock, and off we sail to the land of nod.

To lie on the ground in contact with the earth will do more in half an hour to rest tired nerves than two hours on some dusty lounge in an air-tight room. There seems to be a sympathy in the soil, an interchange of electrical currents, the presence of glame, a mysterious something which restores our vitality, a tonic for the body, at least. Perhaps this love of outdoors, this longing to be mixed up with, to be a part of, outdoor affairs, is an expression of our animal natures—simply the savage cropping out. But there is so much of beauty in the world of outdoors, so much to see and feel, which the indoor dweller surely misses.

A story was once told me of an old man who had

spent his three-score-ten sighing in this vale of tears. To him, life was a sojourn in a weary land. His one theme of conversation was of the time when he could go to a better world. A friend inquired if he had seen any of this one yet. This wasn't bad, in its way.

KAFFIR CORN IN 1895.

BY F. C. BURTIS,
Assistant in Agriculture.

THIS crop may be said to have passed out of the experimental stage, and taken a place among the most important crops on the Kansas farm. This applies more particularly to the central portion of the State, running north and south. According to the last report of the Kansas State Board of Agriculture, for 1895, in this belt are found the counties raising the most acres of this crop, and Greenwood and Barber Counties lead the list with 12,862 and 12,289 acres, respectively. Quite a number of counties in the eastern part of the State are given as raising less than twenty acres each. Wyandotte is the only county in which none was raised, but Atchison is credited with only one acre. The total number of acres raised in the State in 1895 was 184,198. This is an increase of above 82 per cent over the acreage of 1894, and nearly 300 per cent increase over that of 1893. Small patches, first grown, have been increased to fields of hundreds of acres. From the present indications, it is safe to predict a much larger increase in 1896.

Although it is pretty generally conceded that Kansas had an average corn year in 1895, Kaffir corn did not lose any ground as to its merits and value, and in the counties along the north central boundary of the State, where drouth prevailed last summer, and the corn crop was next to a total failure, while Kaffir corn gave goodly yields of grain, it is held dear as a savior.

Kaffir corn and its cultivation has been the topic of many discussions and papers, and many points about the cultivation and harvesting are pretty well settled and known, but each succeeding year's experience brings out new points of usefulness, especially as to its feeding value.

The crop on the College Farm for the past year consisted of a field of about fifteen acres. This was situated on a piece of leased land that joins the College farm on the north and extends northward to the stone hills. The virgin soil of this field must have been very thin to start with, and now, since it has been cropped a great many years, with poor culture, it is about exhausted, and was taken by the College when it would not raise a paying crop. A little over fourteen acres of this was in one patch of the red variety. Besides this, there were plats where the white and the red Kaffir corn were grown in comparison with other non-saccharine sorghums, and the red was grown in comparison with two varieties of corn for the largest yield of grain and stover. The 14.7 acres produced 608.32 bushels of grain, or 41.38 bushels of grain and 1.95 tons of stover per acre. This is calculating fifty-six pounds of grain to the bushel.

A renter had a large field of corn across the road from this field of Kaffir corn that made thirty bushels of ear corn per acre. This was on new land, with the first crop of corn, which had been preceded two years by wheat.

With the exception of a few isolated and favored plats, the average yield of all the experimental corn plats on the College Farm last summer was but little over twenty-two bushels of ear corn per acre. It is proper to explain here that just as the most of this was tasseling, the drouth the last of June injured it severely.

Where the comparison was made direct between the red Kaffir corn and corn for forage, the plats were side by side, and in the field first mentioned. Brazilian flour corn, a very fine fodder corn, and Dole ninety-day corn were used. All were drilled in rows thirty-three inches apart, and the corn was about twice as thick in the row as it would be planted for grain. The Kaffir corn was too thin for the best results, on account of some of the seed failing to come up. The following table gives the average yield of similar plats and a comparison:

	Yield of Grain Per Acre, Bushels.	Yield of Stover Per Acre, Tons.
Red Kaffir Corn	43.07	1.53
Brazilian Flour Corn	22.76	1.64
Dole 90-Day	18.47	1.00

The corn was an inferior lot of nubbins, and is given in ear measure. In the comparison of the Kaffir

corn and other non-saccharine sorghums, there was but little difference in the yields of the white and red varieties, and both gave much better results than the other sorts.

For the combined purpose of raising the largest yield of grain and a fair amount of stover, it is a fact beyond doubt that the red and white Kaffir corns are superior to any of the non-saccharine sorghums and the sugar canes. The latter will produce more hay or fodder, and of a little more palatable quality, than the Kaffir corns, and are preferred by many on account of this fact when hay or fodder is the sole object. Although there is a great deal said about which is the best, the red or the white, I believe when the proper comparison is made, the conclusion will show but very little difference, at least not as much as was at first supposed. Aside from the color, there is a much greater difference between the different strains of the same variety than there is between the red and white varieties. A few who have kept their seed pure and carefully selected can testify to this when they have been, for some reason, forced to buy seed outside and got hold of some poor stuff. These sorghums are very susceptible to cross fertilization and modification, and there will be a rapid improvement or deterioration, according to the amount of care that is exercised in selection of seed. Much of the Kaffir corn seed that is offered for sale is not the best. One may get as much difference in results from Kaffir corn seed procured from two sources as between a very good variety of corn and a poor one.

The value of half of the stover was lost this year by letting the grain get dead ripe before the crop was cut. As it is, stock eat but little of the stalks. Chinch bugs were in the field in large patches, and weakened the stalks so that the wind lodged large areas after the grain was ripe, and all the crop had to be cut by hand.

The College thresher is a small, light machine, so the usual practice of running all the fodder through the machine was dispensed with. The fodder was hauled from the shock without heading, and handed in armfuls to the feeder, who inserted the heads only into the cylinder for a moment, which took all the grain off nicely, and then the stover was passed back into the loft. This did not allow as rapid work as when all the fodder is run through, separating the grain and the fodder, which is the general practice over the State now.

An ingenious farmer, who could not avail himself of a thresher, has instituted a handy and rapid method of separating the heads and stover. He cuts the heads off with a crosscut saw while the shocks are standing. Two sticks are run through toward the top of the shock about where the heads are to be taken off. A rope so arranged that it can be drawn up, is put around the shock just below these sticks, and a man is stationed at one end to keep the rope drawn tight around the shock. Two men take the saw, and cut the heads off above the sticks. It is said that it takes an average of three minutes to a shock for the whole operation.

One interesting point just being called into general notice this year, although some have known the fact for several years, is that Kaffir corn makes excellent pop corn. It has a sweeter taste than pop corn, and that little hard knot in each kernel, which is disagreeable in pop corn is absent in popped Kaffir corn.

The College crop of over six hundred bushels will furnish ample material for some feeding experiments. As a continuation of those carried on last winter, other experiments are under way this winter where it is being fed to cattle and pigs in comparison with other feeds, and in different mixtures. The results are proving very instructive and valuable, and will make an interesting bulletin.

THE RIGHTS OF OTHERS.

BY ELLEN E. NORTON, '96.

I OFTEN wonder if those who use tobacco ever stop to think that those words in the Declaration of Independence, "all men are endowed by their Creator with certain inalienable rights, and among these are life, liberty, and the pursuit of happiness," apply to this as well as to many other things.

Some of us cannot pursue happiness with our nostrils filled with the scent of tobacco. It would seem that it is the right of every one to have all the pure air he needs to breathe. But no, the air of our streets is made foul for blocks by some smoker going along, puffing like a small steam engine. Some one passes along by our churches Sunday evening, and the wind blows the scent of his cigar in, and, because the air inside is still, the whole congregation suffers that one man may enjoy a smoke. If this were all, there

would never have been occasion for me to mention this matter at all. But the tobacco user does not stay down town; he is here among us, in our halls and classrooms. Sometimes our library is made almost unbearable by these people, for the foul breath is much worse than the cigar itself. Many a time, while sitting in an alcove reading, have I opened the window to let in the fresh air, after one of these tobacco users had been in the alcove for a few minutes.

I know of but one real use to which tobacco can be put. It is very effectual in the greenhouses as an insect destroyer. Some bicycle riders use a cigar as a headlight on dark nights, but this seems to me a very expensive method of letting people know they are coming.

It would be a good thing for us if that old "blue law," which said that no one should smoke within ten miles of any dwelling, were still in force. There would be much less use of tobacco in such a case, for many would be too busy to go so long a distance for a smoke, and those who were not too busy would probably be too lazy.

It is a wonder to me that young men will knowingly and willingly ruin their health in this way; that young men who have to work hard for the money they get will throw it away so carelessly. They surely never stop to count the cost, or they would not do so. How can those who consider themselves gentlemen, who would do almost anything to accommodate one,—how can they, I say, be so thoughtless of the comfort of others as to make themselves obnoxious to the people with whom they come in daily contact, polluting the very air they have to breathe. Many young ladies can truthfully say they "like the scent of a good cigar;" but for my part I had much rather smell the odor of the *Mephitis* than this same "good cigar." Probably I am not annoyed so much as some others by tobacco; for, to the best of my knowledge, not one of my friends use this filthy weed in any way.

Much has been said and written on this subject, and it seems to have all been for naught, so strong, so fixed, is the habit. What are we to do about it? If we say any thing personally to the tobacco user, he thinks, if he does not say, that we had better attend to our own business and he will take care of his. Yet, it is only standing up for what is ours by right—pure air, the gift of God to all his creatures.

If some persons do not care to develop perfectly, mentally and physically, why can't they devise some way to hinder their growth that will not interfere with other people's happiness, as well as such development? For it is nothing less than infringing on the rights of other people.

EUROPEAN THRIFT.

BY PRES. GEO. T. FAIRCHILD.

IN a short tour of eight weeks in Europe, opportunities were given me for learning a little of English and continental methods in agriculture. Most suggestive, perhaps, were the thrifty ways in which the farmers make ends meet, in spite of numerous disadvantages. It may be that some of these ways may suggest directions for increasing the thrift of American farming.

In maintaining and increasing fertility of soils, nothing is left undone. All ingenuity is exercised to secure the most, and most effective, manures possible for all field crops. Not a particle of fertilizing material is left to waste its richness on the desert air, but is carefully composted and as carefully distributed where it will do most good. Even the pastures are carefully gone over to distribute the droppings of animals evenly. In Switzerland, the lowest cot as well as the largest mansion displays its wealth in the size of its compost heap in close relations to the house.

Equal care for such tilth as favors the highest fertility is also evident. Not a clod is wasted, not a barren spot is neglected; but all are thoroughly turned and returned to air, sunshine, frost, and shower for fertility. But the most constant force in this direction is the universal practice of rotation, favoring best culture, and fullest occupation of the ground, while economizing the elements of plant food in the soil.

In raising crops, there is notable attention to variety of crops; constancy in such variety, without rushing into and out of some fad; fit succession of crops through the season; a most careful seeding, and a diligent filling of vacancies in the stand of beets, or turnips, with something else, like cabbages, cauliflower, etc.; most rigid extermination of weeds by cultivation; the utmost care in securing the crop, both in the shock and in the stack, the latter being always thatched, or sheltered with movable roof, and

finally, most scrupulous nicety in the marketing of produce, to present everything at its best.

In stock-raising, there is evident thrift in the universality of live-stock of some kind, and the uniformity in quality throughout whole regions. The variety of stock is noticeable also, sheep or goats being an almost universal part of farm machinery, while the quantity kept upon small farms by forage crops and soiling would astonish a western grazier.

In the average labor force of these countries, there is thrift from its abundance, its regularity of supply, its permanence of location, its housing upon the farm, and its consequent skill. A farm laborer though gaining but a meager annual income, is fairly housed in even his rudely constructed cottage, with its potato patch and flower garden. His special gifts are developed in lines of skill in farm practice by successive generations upon the same land, and under the same conditions.

Everything is planned to meet the needs of home consumption as fully as possible. Vegetables, fruits, meats, and dairy products are provided on the farm, however small, or left out of account. Nothing is purchased which can be raised by expenditure of care and labor.

Finally, there is thrift in the surroundings of even the humblest homes. Trees shelter, flowers adorn, yards are secured; tools, however rude, are housed, and the stacks are clustered in most mutually protective relations.

As a genuine thrift always looks forward to permanence of life in the business followed, it behoves western farmers to study the methods of making most of their farm homes for themselves and their children. Perpetual comfort is far greater thrift than hasty accumulation at the expense of the future. While we need not adopt the painstaking ways of our European neighbors, we can study profitably their thrift in making most of their circumstances.

Education on the Farm.

The farmer's profession can be elevated above its present standard only as the children improve upon the methods of their parents. President Chadbourne of the Massachusetts Agricultural College once said that the way for young men to rise in the world was to stand upon the shoulders of their fathers. We miss half the wear and tear in life when we acquire the faculty of profiting by the experience of other men. It proves nothing, that some finely educated man has failed in farming, or that some uneducated men have succeeded. Education will help a man, but it will never make one. When it can be proved that a majority of educated men upon the farm are failures and a majority of the uneducated successful, we shall all begin to question the propriety and value of education for the farmer's profession. But until that is proved we shall believe that the farmer's business stands upon the same basis that supports all other kinds of business; that the general education which is useful to the doctor, the lawyer, the man upon the board of trade is just as valuable to the man who tills the soil, and that professional training in schools of agriculture will have the worth upon the farm that the knowledge and discipline of the law school has in practice before the courts.

One thing more. The circumstances of a farmer's life are such that he is brought into closer, because more constant, contact with his family than men engaged in other pursuits. His partnership with the companion of his life is, in a business sense, certainly a very close one. Side by side they often perform the same kinds of labor, and the silent partner not unfrequently bears the heaviest burdens. Many of us in the rush and amid the distracting cares of our business, forget that woman's strength is not man's strength; that a ceaseless monotony of toil takes laughter from the lips, roses from the cheeks and health from the body. No sensible man would desire that farmer's wives should be transformed into useless ornaments; but it should be the aim of farmers who would do honor to their profession to make their mothers and wives and daughters something more than mere household drudges; to give them an opportunity, so far as means will permit, to satisfy those fancies and tastes, to cultivate those graces and those talents that are the beauty and the charm of true womanhood.—H. C. Adams, in *Farmers' Review*.

Small Farmers.

I find this is a phrase disliked by many, but it is better to be a good and successful small farmer than an unthrifty and unsuccessful large farmer. We often see business men begin in a limited way and do well until they get aspiring. No sooner have they made a little money than they spread out, buy a larger stock of goods, partly or chiefly on credit, and indulge in "great expectations" which fail of realization. Many a man can manage a smaller business who gets out of his depth when he tries to conduct a larger one. Or, in the fluctuations of trade, the times are not so good, he cannot sell the larger stock he has got together; before times improved many articles become unfashionable and go down in value, and the issue is bankruptcy. In like manner, many farmers who succeed in a small way, go into this, that, and the other thing until they get a bigger burden on their shoulders than they can carry.—*Rural Canadian*.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.

Winter Term—January 7th to March 27th.

Spring Term—March 30th to June 10th.

June 10th, Commencement.

1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Recent accessions to the Library bring the total volumes to 16,000 and over.

Mrs. Kirshner of Kansas City is visiting with her parents, President and Mrs. Fairchild.

Visitors from abroad attended the Hamilton exhibition in considerable numbers, among them being many graduates.

Lawrence Hayes, Fourth-year, was surprised by a party of friends on Monday evening, who in some manner learned that it was his birthday.

The wet snow of Thursday night, clinging to trees, shrubs, and buildings, afforded the amateur photographers the longed-for chance for snowscapes, on Friday, the various groups of pines on the grounds being favorite subjects.

The Third-year Class met last evening in a Leap Year party at the hospitable home of Mr. and Mrs. L. R. Elliott, and spent a few hours most pleasantly in a literary and social program, with the refreshment feature somewhat prominent.

Three cases of scarlet fever keep as many students from classes. The sick ones have been carefully isolated, and there is little danger of the spread of the disease, since the majority of our students are of mature age, and there is no hiving of them as in schools having the dormitory system.

The short lecture course is half finished according to the program as published in these columns for several weeks past. Many good papers have been presented before audiences which have been all too small. There are few present from outside the county. Hon. Edwin Taylor's paper on "What per cent of the Farm Should be Planted in Potatoes?" was of special interest, and will be published in a future number of this paper.

The Second Division of the Senior Class appeared in chapel yesterday afternoon with the following program: "The Value of Brevity," Joanna Freeman; "Origin and Nature of Mohammedanism," C. S. Evans; "Mob Rule," G. W. Finley; "The Modern Hero," J. J. Fryhofer; "The Last Days of Crusading," E. G. Gibson; "The Desire for Wealth," G. C. Hall; "The Influence of George William Curtis," M. G. Spalding. The musical numbers were a trombone solo by H. G. Johnson, and a selection by the Cadet Band.

The Zoological and Geological Departments have just finished the removal of their collections from their former position in the Armory to their future resting place in the commodious museum in Science Hall. The Botanical Department has long since vacated its old quarters to take up better ones in the new building; and now the old building is left to the clatter of the cadets' rifles, and the bleak and grisly skeletons of the Veterinary Department. The old cases will not be removed, but will be partially occupied by the Farm Department.

The Regents and Faculty, the latter accompanied by their wives, sat down at six o'clock Tuesday evening to an excellent dinner prepared and served by the Cooking Classes under direction of Mrs. Kedzie and Miss Stokes. Both dinner and service did credit to all concerned. Messrs. Street and Kelly, the retiring members of the Board, were called upon, and each spoke briefly of the pleasant years of service in the interest of the College, promising continued interest as citizens of a great State concerned with the welfare of its educational institutions.

GRADUATES AND FORMER STUDENTS.

W. R. Browning, '89, is farming at Russell Springs, Logan County.

A. L. Frowe, Third-year, is elected Superintendent of the Sunday School at the Christian Church.

Margaret Purcell, Second-year in 1888-9, was married on February 6th, to Mr. William H. Prescott, of Cleveland, Ohio.

F. A. Waugh, '91, lecturer in horticulture at the University of Vermont, orders some views of our College grounds to illustrate his lectures on ornamental planting.

A sample copy of the *Tyro*, a monthly journal published by the San Bernardino (Cal.) High School, shows a good portrait of the Principal, N. A. Richardson, '80.

Harry C. Rushmore, Class of '79, was in town Wednesday, on his regular business trip in the interest

of the Gille Hardware Co., Kansas City. He makes Manhattan once a month.—*Republic*.

David G. Fairchild, '88, sails the last of this month from Genoa, Italy, for Java, when he will continue his botanical investigations for some months, at least.

E. A. Allen, '87, writes from his office of Superintendent of Indian Schools, Perris, California, of prosperity in his work, but with willingness to reach higher.

The good news comes from Sioux City that Geo. W. Fryhofer, '95, for six months past Educational Director of the Young Men's Christian Association, is promoted to the place of General Secretary, vice H. W. Stone, '92, resigned to accept a like position at Portland, Oregon. The comfortable increase of salary from \$600 to \$1500 compensates for added responsibility in assuming the care of the Association's property interests, amounting to about \$90,000.

J. B. Brown, '87, Superintendent of the Indian School at Ponca, Ok., in a private letter says many things of interest, from which the INDUSTRIALIST quotes: "I have planted 2000 shade trees this fall and winter, and am trying to make this portion of the desert to blossom as much like the rose as is within the compass of a cottonwood. We leave a hollow place in our grove for a tennis court. Future generations of Government officials will no doubt point to the trees as a monument to the folly of a man who might have known he wouldn't be here to enjoy the shade."

Board Meeting.

All the Regents were present during portions of the meeting this week, extending from Tuesday afternoon to Friday evening. Much of the time was given to the short course of lectures.

Tuesday evening was occupied by the usual joint-meeting of Board and Faculty, with reports of work and needs in all the Departments.

The Secretary was directed to correspond with Congressmen as to bills now pending in Congress affecting the interests of the College.

Expenditures were authorized for special purposes as follows:—

Chemical apparatus, \$100; Museum shelving, \$100, and the balance of appropriation for increase of specimens toward Prof. Popeno's trip to Florida in collecting; tools and patterns for drawing, \$15; additions to engine tester, \$15; apparatus for elementary physics, \$10; pictures for illustration in Veterinary Science, \$5; Museum bottles, and table for Botanical Department, \$13; seeds, apple stocks, thermometers, and hot-bed sash, for Horticultural Department, \$59; repairs of blackboard and sink in College Hall, estimated, \$20; extending lockers for uniforms, \$75; advertising, \$5; membership in American Association of Agricultural Colleges and Experiment Stations, \$10.

The quarterly estimate for Experiment Station expenditures was approved, with the addition of directions for continuing upon an economical plan the work at Garden City and Oberlin.

Prof. Georges was authorized to settle a claim of \$6 against the Farm Department.

The resignation of Mr. L. A. McKeen as Foreman of the Farm, was presented and accepted, and Mr. Geo. Sexton, of Burlington, Coffey County, was elected to fill the place at a salary of \$500 per annum, with house rent free.

Upon recommendation of the Committee on Buildings and Grounds, Prof. Mason was authorized to remove the old stable east of the grounds, and clear up for planting the strip of land now lying unfenced. The Committee on Buildings and Grounds was instructed to present at the April meeting plans and estimates for securing the grounds against overflow from the brook passing the farm barn.

Pres. Fairchild was authorized to give bonds and procure insurance for twenty-five stands of arms in addition to the two hundred now in use.

The question of providing fire extinguishers for buildings was postponed till such time as the Board may consider the biennial budget for Legislative appropriations.

A resolution of inquiry as to the number of hours daily given by professors to the oversight of work of post-graduate students was passed, and answered.

The recommendation of the Faculty, that a trial be made during the Spring Term of using Monday for the weekly holiday instead of Saturday, was agreed to.

The arrangement of all the exercises of Commencement week was by vote left to be decided by Faculty action.

The Treasurer and Secretary were authorized to provide for College payrolls prior to April 1st as may be needed.

The Board adjourned to meet April 1st next, at 3:30 P. M.

Notes from the Shops.

The College shops are alive with the hum of machinery, the click of hammer, and the noise of saw and plane. The large number of students mentioned in the last "Notes" have learned the routine of work, and are making advancement as fast as their abilities will allow.

Numerous visitors have been welcomed lately and shown around the various departments. Those attending the farmers' short course have been interested in watching the work go on. We feel confident

that if more of the farmers of our State knew and realized the advantages of such training in connection with the education of their boys, the shops would not accommodate the half of those who would come to educate the hand as well as the mind.

The Regents looked in on us a few minutes while on their regular round of inspection.

One of the things which has attracted considerable attention is the new stereopticon just completed by Mr. Harrold. It is made of brass, and consists of a tube six inches in diameter by eighteen inches in length, which contains the lenses and calcium light. The lenses were taken from the old stereopticon, the frame work of which was a clumsy wooden affair, awkward to handle, and unsatisfactory in every way. The new lantern is mounted directly on the tank containing the oxygen for its use. It is easy to adjust, compact in form, and can easily be packed for shipment. It is used frequently here at the College for entertainments and lectures in chapel, and at farmers' institutes over the State to show views of the College.

An engine belonging to Ulrich Bros. is in the shop for repairs this week.

Another run is made in the foundry today.

ED. H. WEBSTER.

The Hamilton Annual.

The Hamiltons were favored with a pleasant evening last Saturday, the occasion of their Tenth Annual Exhibition. Some time before the opening hour, every available seat in the chapel was taken, and many, not content with standing room in the hall, were compelled to turn homeward.

At eight o'clock, amid the sweet strains of a medley overture, "All Around the City," by the College Orchestra, Society President John Poole and President Fairchild ascended the stage, which was rusticly decorated to represent a primitive log cabin with its accessories. President Fairchild, in his invocation, devoutly implored divine blessing not alone upon those on the program, but upon listeners as well, that all might be benefited by the meeting. President Poole, in a few words, welcomed the guests, and said that though in years the Society was a junior, in work they wished to be considered on the same plane with the older organizations, and just criticism according to that standard would be gladly received.

As chief representative of the Society, President Poole introduced C. E. Pincomb, who delivered the address, "Intellectual Life." Notwithstanding the fact that Mr. Pincomb had been handicapped in preparation, leaving the bed of a sick sister to respond to his name, he did not betray the confidence placed in him by his associates. A few of his thoughts are given: "In the countenance as well as deeds is revealed intellect and character. Intellectuality is the status of life. To us Roman gladiatorial scenes have lost their attractiveness. We have gone beyond oriental intellectuality,—slavery and serfdom have been abolished, and arbitration is replacing war. Man's highest aspiration is to seek and impart knowledge, as to him the world grows wider and grander. He looks beyond self, and seeks intellectual discipline. The man who makes no advancement is a detriment, and may well be called a fool; while, on the other hand, the man who strives upward, improves himself and others, is truly intellectual. He works out his own salvation, and comes to him the voice. 'Well done, thou faithful pilgrim. Thy name shall outlive the duration of the world, and thy spirit rest forever in peace.'"

The address was followed by a chorus, accompanied by the Hamilton Band.

The debate on the question, "Are We Tending Toward Socialism?" was presented by L. G. Hepworth and E. Emrick. Practically untried in public rhetorical work, they both showed that good training must come to them in their Society. Mr. Hepworth, the first speaker, said: "The development of socialism dates back to the French Revolution. It represents progress, and its spontaneous growth shows that conditions demanded it. Beginning with the postal service, the State has reached out, until now three hundred thirty-seven industries are under its control, while over many others it is a supervisor. The 'practical man,' the politician, and the business man all reject socialism, but, unconsciously, they share with others the benefits of municipal control. But public opinion is developing. The socialist is no longer considered an enemy, but his cry is being heard and heeded."

Mr. Emrick, on the negative, while admitting that tendencies seemed to indicate coming socialism, he denied that tendencies are conclusive proof, which fact has been shown in the history of such nations as Rome and Greece. But, like a ship pursuing her zig-zag path, our nation is continually oscillating between socialism and individualism. Although the direction is now toward socialism, there will soon come a time when, our liberty-loving Anglo-Saxon spirit asserting itself, we will turn and travel once more the route to individualism."

"Nordica Valse," a selection by the Hamilton Mandolin Club, was appreciatively listened to by the audience.

E. C. Joss, in an oration, "American Vassalage," eloquently portrayed the causes of our political bossism and corruption, and showed that our Government, though built upon "Liberty, equality, and fraternity," is not enjoying undivided peace and prosperity. Pure politics is the elixir of national life, but when controlled by the moneyed few the free ballot becomes a farce. The root of this evil is in our great cities, where are huddled together thousands who know not how to think, nor could they, if they would. They have been neglected, and as a

result, a reaction is setting in. Strikes and riots are daily occurrences, and the red hand of anarchy has been loosed. The time for action is at hand. We must eradicate the saloon, the gambling den, and the horrible slum. We must vote for American manhood, and then will the miserable hovel be transformed into a cottage, political combines will be impossible, disloyalty will fade from the land, and our country will pass down into the ages as the poor man's paradise and the home of the free."

The Hamilton Recorder appeared with W. L. Hall as editor, who, by his good style of reading, held the audience throughout. The number was filled with articles touching upon College life, both thoughtful and humorous, making it an edition well worthy its editor and the Society.

The Hamilton Band, composed of thirteen pieces, under the leadership of H. G. Johnson, rendered a selection, "Crown of Victory."

The Society showed good judgment in selecting as their closing literary production an oration by C. F. Doane, who showed by his clear and forceful delivery that he had made himself master of his thoughts. His subject was "A Journey," upon which he said in brief: "Life's progress is a journey, leading us we know not whither. To those who spend their lives in the pleasures of the world, this journey may lose its highest meaning. But those who make the most of life must see the hardships and face the difficulties. We are journeying toward something better. The coming dawn of the twentieth century holds greater prospects for us, and the thought of the present day banishes the memory of the romantic past. The age of chivalry is gone, but with its going, life has been made more easy for the lowly; place more sure for the ambitious. Fame brings her chosen ones from palaces and hovels. Her sweetest singer came from the thatched cottage; the noblest statesman, from the log cabin."

R. H. Brown both surprised and pleased the lovers of music by the grace and ease in which he executed a violin solo, "5th Air Varie De Bariot."

The last feature of the program was a play, "Theatralische Darstellungen," in which were represented applicants for theatrical positions who, through their trial performances, put the audience in a cheerful mood, sending them to their homes with the thought that the two hours spent with the Hamiltons had been highly profitable. Each annual seems better than its predecessors, and this one was no exception. Those who witness the exhibitions given by the College societies cannot but be impressed by the strong and useful work that is being done by the young men and women in intellectual self-development, and the Hamiltons are to be congratulated on the way they demonstrated this fact upon this occasion.

F. J. SMITH.

Want a Dairy School.

Ex-Regent Secret offered the following resolution—which was adopted—at the meeting of the Riley County Farmers' Institute, last week:

WHEREAS, Experience has taught the Kansas farmer that diversified farming is his only salvation, and should be encouraged and developed;

Resolved, by the Riley County Farmers' Institute that every farmer's organization in the State, together with the Board of Regents of our State Agricultural College, be requested to use their influence in asking the next Legislature for an appropriation for a State Dairy School to be connected with the Agricultural College.

COLLEGE ORGANIZATIONS.

Student Editors.—May Bowen, J. B. S. Norton, John Poole.

Alpha Beta Society.—President, A. C. Peck; Vice-President, Grace Secret; Recording Secretary, E. A. Powell; Corresponding Secretary, Etta Ridenour; Treasurer, Guy Hulett; Critic, Inez Palmer; Marshal, W. H. Ellis; Board of Directors, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, E. H. Webster; Vice-President, E. G. Gilson; Recording Secretary, W. J. Rhoades; Corresponding Secretary, J. B. Norton; Treasurer, E. E. Butterfield; Critic, T. M. Robertson; Marshal, H. L. V. Uhl; Board of Directors, F. H. Myer, J. E. Trembley, C. H. Stokely, J. H. Bowler, T. W. Allison.

Hamilton Society.—President, John Poole; Vice-President, G. C. Hall; Recording Secretary, A. L. Frowe; Corresponding Secretary, L. A. Fitz; Treasurer, G. G. Menke; Critic, C. F. Doane; Marshal, W. J. Goode; Board of Directors, J. W. Holland, S. J. Adams, A. W. Staver, C. E. Copeland, A. J. Pottorff.

Ionian Society.—President, Clara Newell; Vice-President, Gertrude Lyman; Recording Secretary, Minnie Spohr; Corresponding Secretary, Olive Long; Treasurer, Mary Norton; Critic, Miriam Swingle; Marshal, Hattie Goode; Board of Directors, Minnie Pincomb, Ellen Norton, Gertrude Lyman.

January 31st.

President Peck's call to order was responded to by a large number of Alpha Betas and interested visitors. The program opened with congregational singing, after which Gertrude Havens led in devotion. A mixed quartette, composed of Inez Palmer, Mary Paddleford, J. J. Fryhofer, and A. E. Ridenour, entertained the Society in "A Home By the Sea." This was followed by an interesting selection from the pen of Jerome K. Jerome, read by Alice Shafe. "An Old Home" was the subject of a descriptive essay by Porter Rader. Myrtle Stryker gave a declamation in a bright and interesting manner. Debate followed this number of the program. A question that occupies the mind of every American to day, "Does the present political unrest in Europe justify the United States in increasing her navy?" was discussed affirmatively by A. C. Havens and Emma Shull, and negatively by J. J. Fryhofer and E. E. James. The affirmative held that we must be neutral in this trouble, and in order to maintain our neutrality, we need a navy to show our power. We have no defense as England has. Our navy is but a third as extensive as that of England, and we should be better prepared for war. The negative held that the United States has enough of a navy to maintain neutrality. History has proved that our navy is sufficient to show our power and guard our rights. We are not financially situated that we can increase our navy, and an increase would rather encourage than assist war

with England. The American vessels are superior to those of England, making up in quality what they lack in quantity. The Society decided in favor of the negative. The violin solo by R. W. Clothier, accompanied by T. L. Jones on the piano, called forth hearty applause from the audience. The Gleaner, filled with good thoughts to suit everybody, was edited and presented by Florence Martin. After recess, the Alpha Beta Orchestra gave a selection, followed by a very interesting impersonation by Elva Palmer. Mrs. Wilder and R. K. Farrar made short talks. Business followed the program, and after a few minutes of parliamentary practice, the Society adjourned for one week. G. S.

January 31st.

Promptly at 2:39, President Newell called the Ionians to order. The room was well filled with members and visitors. Roll call showed the usual large number of loyal Ionians. The Society joined in singing, and Ellen Norton led in devotion. First on the program was a piano solo by Tacy Stokes. Emma Dahl gave a well-written oration on the subject of "Elocution." The Society was next entertained by a vocal solo by Marie Haulenbeck, with Miss Gertrude Haulenbeck at the piano. Mary Norton and Tacy Stokes gave a most amusing original play. Harriet Vandivert reviewed the book "Timothy's Quest." It was very well written and very interesting. The Misses Haulenbeck then favored the Society with a piano duet. The question for discussion was, "Is it wrong for a lawyer to defend a man whom he knows to be guilty?" Harriet Goode argued for the affirmative from the standpoint that it is just as wrong to uphold a wrong as to commit one. Another point was, that often men are cleared by the lawyers when they are really guilty and deserve punishment. These men are turned loose upon the world with less regard for law than ever, and thus is made a class of lawless men which are forever a detriment to society. Grace Stokes gave the negative. She said that the aim of all law is justice, and in order to have justice, both sides of a case must be presented; for has not the man, though he be guilty, a right to bring forth all the best points in his case? In order to do this he must have a man to aid him who is well versed in law. History shows us what wrongs have been done accused men when they were given no chance of defense. The ordinary man is not well enough acquainted with the laws for his own defense, hence he must have some one to defend him, and it is only just and right that he should have. An excellent edition of the Oracle was presented by its editor, Minnie Williams. Its motto was, "Strive to do your best," and it contained many interesting articles. This closed the program, and orders of business were taken up and the usual amount of business transacted, after which the Society went into executive session. O. A. L.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

Prof. J. N. Wilkinson of the State Normal School is preparing a geography of Kansas.

The State oratorical contest will be held Friday night before Washington's birthday, at Topeka.

Ex-Chancellor Dr. Lippincott of the State University is at present pastor of a church in Philadelphia.

The University of Pennsylvania has a Kansas Club, formed by Kansas men, most of whom are studying medicine. There are twelve members.

The Kansas College Press Association will hold its annual meeting at Topeka, February 21st. The program contains nine addresses and topics for discussion, and closes with a banquet.

Class spirit is a good thing; so is a locomotive. But if you turn the thing loose and let it go without control, there is no telling where it will stop or what harm it will do.—*Ottawa Campus.*

At the close of the fall term, the members of the class in geology in Cooper College at Sterling, assembled and solemnly declared the development theory false in fact, and misleading in tendency. This ought to settle the question!

The leading article of the *Cosmopolitan* for February has been contributed by Prof. Dyche of the State University. It is a neatly illustrated and highly interesting narrative of his experience at walrus hunting in the Arctic Seas.

Arrangements have been completed for a joint debate at Topeka, March 26th, between Drury College of Springfield, Mo., and Washburn College of Topeka. The question for debate is, "Resolved, That the Monroe doctrine applies in the Venezuelan case." A. Page and L. L. Lichliter will speak for Drury.

Ottawa University is greatly disturbed over a disciplinary matter. A large party of students of both sexes arranged an evening entertainment, and visited, after midnight, a restaurant to get supper. This was done against an explicit rule of the Faculty, who, after learning of the facts, demanded of all participants the signing of a pledge that they would never do so again. The young women signed the document, but most of the young men refused to do so. As a result, 21 students have left the University.

The Emporia *Gazette* says: "Emporia's football players are supposed to be very lucky. Yet within the past year there have been two arms broken; two spines strained; one concussion of the brain; one hand mashed; one shoulder sprained; five faces cut; seven eyes injured. In Kansas, since football became a fad, there have been five deaths; one leg lost; one face bone broken; nine arms broken; two legs broken; three ribs broken. It costs too much. It is a brutal game. The best people in Kansas are

against it. In Emporia, the teachers and fathers and mothers are against it. There should be a law passed against it."

The St. Ann's Academy at Osage Mission will not be rebuilt. The Sisters of Loretta have received instructions to dispose of their interests there.

Dates and Appointments at Farmers' Institutes.

Overbrook, Osage Co., February 13 and 14; Prof. Popeno, Prof. Olin.

Russell, Russell Co., February 20 and 21; Prof. Hood, Prof. Mayo.

Cherryvale, Chautauqua Co., February 20 and 21; Prof. Graham, Prof. Mason.

Concordia, Cloud Co., February 27 and 28; Prof. Georgeson, Prof. Will.

Program of Lectures in Short Course for Farmers.

MONDAY, FEBRUARY 10.

10:30 A. M. The Philosophy of Price - - - - - Prof. Will
1:30 P. M. Small Fruits by Irrigation - - - - - Prof. Mason
3:00 P. M. Recent Methods in Applied Entomology - - - - - Prof. Popeno

TUESDAY, FEBRUARY 11.

10:30 A. M. Lightning Conductors - - - - - Prof. Nichols
1:30 P. M. The Farmer's Vineyard - - - - - Prof. Mason
3:00 P. M. Some Garden Insects, and Their Control - - - - - Prof. Popeno

WEDNESDAY, FEBRUARY 12.

10:30 A. M. The Citizen and the Law - - - - - Prof. White
1:30 P. M. Bread - - - - - Mrs. Kedzie
3:00 P. M. Trees and Shrubs for Shelter and Beauty - - - - - Prof. Mason

THURSDAY, FEBRUARY 13.

10:30 A. M. How Plants Live - - - - - Prof. Hitchcock
1:30 P. M. The Ash of Plants - - - - - Prof. Willard
3:00 P. M. Obstacles in the way of Orcharding - - - - - Hon. F. Wellhouse

FRIDAY, FEBRUARY 14.

10:30 A. M. Literature of Agriculture - - - - - Prof. Lantz
1:30 P. M. The Moral Influence of Dress - - - - - Mrs. Winchip
3:00 P. M. Agriculture in Central Europe - - - - - Prof. Walters

SATURDAY, FEBRUARY 15.

10:30 A. M. Wind Mill Notes - - - - - Prof. Hood
1:30 P. M. Relation of Plants to Climate - - - - - Prof. Hitchcock

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THE OATS CROP.

BY PROF. C. C. GEORGESON.

THE climate of Kansas is not especially adapted to the growing of oats. There is apt to be a shortage in the rainfall at the time this crop needs it the most, and the weather usually gets too warm for the best development of the crop during the month of June. The last Biennial Report of the Secretary of the Kansas State Board of Agriculture shows that the average yield per acre of oats in Kansas during 1893 and 1894 was but a little over eighteen bushels and a little less than thirteen bushels, respectively. This is exceedingly light. But the oats crop is nevertheless an important one, and cannot well be spared from our all too limited list of farm crops. It has a feeding value, especially for horses, much beyond that indicated by the usual prices per bushel, and it is needed in a system of rotation to give the soil a change from the persistent cropping with corn. It is, therefore, worth while to study this crop with a view to ascertain by what methods of treatment the naturally unfavorable conditions may be ameliorated, and the yield increased.

Experiments carried out here at the Station for several years past on the same lines, although by no means conclusive, indicate in what direction improvements can be made.

First, early seeding is an important point. Excepting in very backward springs, the seed oats ought to be put into the ground in March. Occasionally a very early seeding meets with reverses in the shape of a killing frost after the crop is up, and renders re-seeding necessary. This, however, does not happen often enough to make it wise to delay seeding after the middle of March, if the other conditions are favorable to beginning work then.

Second, the average results of several years' experiments indicate that there is an increase in yield by using good, heavy seed oats, such as may be obtained by running them through a fanning mill, and using only the heaviest and best seed.

Third, in regard to the preparations of the soil, quite contrary to expectations, the average results of several years' experiments are in favor of spring plowing as compared with fall plowing, or not plowing at all. In the rotation adopted on the College farm, oats follow corn; and when the corn ground has been kept clean and in good tilth, it would appear that the land might be prepared with a disc, or simply smoothing it with a harrow in the spring before the oats are put in, but the results have been nearly uniformly in favor of spring plowing.

Fourth, several methods of seeding have been under experiment for some years, as broadcasting, seeding with hoe drill, and seeding with a shoe drill with and without press wheels. Of these, the average results are in favor of the shoe drill with press wheels. Then follows shoe drill without press wheels, the hoe drill, and broadcasting in the order named.

Fifth, the hot-water method of destroying smut in the seed oats has given uniform satisfaction. This method consists simply in dipping the seed oats for a few minutes in water that has been raised to a temperature of about 133 degrees F., and again cooling the seed and drying it sufficiently to run it through the drill. The smut spores adhere to the seed and start their growth in the sprouting germ of the oat. These spores are killed by this simple treatment. The method has been described in bulletins 29 and 42 of this station, which can be had on application.

Sixth, several years of experimentation with different quantities of seed per acre indicate that we should sow not less than two and one-half bushels per acre. Seedings up to four bushels per acre have sometimes given the largest yields, but the increase in yield does not always compensate for the extra seed used.

These results indicate that the yield of oats in Kansas may be considerably increased by the methods here mentioned. Variations in soil and location would, of course, have an important bearing on some of these methods, but on the whole, I believe, they can be adopted to advantage.

DON'T QUIT.

BY J. B. BROWN, '87.

ALL the world despises a quitter. The timid soul that has a task nearly completed grows fearful of failure, and quits. The old man fails in business, and thinking he has not much longer to live, declines to make another start, and during his remaining days

does nothing save "wait the inevitable hour." The candidate for office, confronted by formidable opposition, harassed by thoughts of the enemies he is making, fearful of ignominy the dreaded failure will cast upon him, withdraws from a race already half won, perhaps, but in any event confesses and lies down before the defeat he feared.

The quitter has no place in the world of industry. The man who begins to "let up" in his efforts in any position in anticipation of a move will usually get the move, and it will be downward. The man who moves to better things is he who keeps up his work to the highest efficiency unto the last day of his service. Last impressions are lasting. The public can better judge a worker's worth by his last than his first month. As a matter of principle and example, the worker in any field should keep up the standard of his product to the last. The fighter in a cause by him deemed just should keep up the fight to the last extremity, and the old man, keeping his heart ever young, should to the last be doing something. Don't quit.

HOME INHUMANITIES.

BY ALICE RUPP.

"SEEK consolation in the dictionary," was the advice ever given by Prof. Hodgin to his pupils, so when this subject, unbidden, presented itself, the advice of our good old professor was heeded, and the dictionary brought forth. There inhumanity is defined as an act causing unnecessary pain. Let us analyze the definition closely, accept its meaning sincerely and honestly, then see if it is applicable to self.

It is with extreme indignation we resent the gross charge of inhumanity, yet is there one among us who is not inhuman every day of his life? If such there be, bring him forth that he may wear the laurel wreath. The declaration is severe? Perhaps it is. We never enjoy confronting Truth face to face, for, like a two-edged sword, it cutteth deep. Still further, it asserts the pain to be unnecessary. Pray tell what necessary pain can we inflict upon those with whom we live and associate from day to day other than that which is needful for their physical or moral good. Truly, no pain.

Then, let us take one day, living as we are wont to do, and, beginning with the rising, aggregate the inhumanities perpetrated before we again close our eyes in slumber, thereby resigning all power over mentality to the god of dreams.

This home is composed of fathers, mothers, brothers, sisters, chums, neighbors, associates,—for our home is the universal home, which embraces all those little amenities, the seeds of which, though fostered in the confines of a narrow sphere, scatter, like the thistle-down, here, there, everywhere, never resting till they not only touch, but permeate, the hearts of the whole human family.

Do we arise at the first call of the bell, dress neatly, then join the family with a smile and a pleasant "good morning," or do we come with a face shrouded in a frown and with a snarl which says, plainer than words, "Address me and I'll snap your head off," or perhaps still worse, do we drag ourselves along too lifeless or uninterested in those about us to either smile or frown? Should we open the day without the kind, affectionate smile, we cause unnecessary pain, first upon those who love us, and secondly upon those who without loving us are more or less affected by our influence; for influence, though it be unconscious, emanates from each individual, whether we would or not, and we are responsible for it.

No, it isn't a dangerous pain. If it were, many who are living today would not be. No need for the anxiety and apprehension concerning present difficulties with foreign powers, for there would not be men enough left to carry the musket, nor women to care for the home, the sick, the wounded; and the little children would vanish from the earth like dew-drops in the noon-day sun. But it is a pain, none the less,—a real, true pain, an unnecessary pain,—and we who cause it are inhuman.

Next, what do we say? Do we gather round the table with thankful, loving hearts, grateful for the meal prepared for us by kindly hands, giving the appropriate words of praise, though some dishes may fail to "tickle the palate?" Do we speak affably, courteously, gently, on pleasant, cheerful subjects that shall awaken a kindred sentiment in the hearts of our associates? or do we speak rudely and harshly, find all the fault possible with both weather and breakfast, then proceed to caustic, antagonistic discussions and slanderous civil speaking, thereby arous-

ing every unpleasant feeling that might otherwise have remained dormant? If we indulge in the latter, we are sowing pain just as surely as the farmer sows seed—unnecessary pain, from which can only be gathered a bountiful harvest of evil; and we who sow are inhuman. All this, and it is but the opening of the day; scarcely an hour has gone, and we perhaps have not given even a cursory thought to our plans for the day.

The circle is broken; the confines of the four walls are left; the larger home is entered, where we confront business, work, and pleasure, in all of which we are associated with fellow beings. Do we quickly see, then as quickly, quietly, and unostentatiously do, the many little acts of courtesy which cost us little or no exertion, yet bear with them manifold blessings to others? It may be the bringing of a letter, the handing of a book, the sacrificing of a comfortable chair or a cozy corner to an elder, the look, word, or act of encouragement to some despondent brother, all very little things—yea, insignificant, if you wish to term them such, but if we neglect the opportunity of doing even the least of these for another's good, we are causing unnecessary pain; we are inhuman in our regard for the rights of others, and the penalty is ours; for upon the word, the act, the will, of each individual, more or less, depends the movements, the occupations, the enjoyments, the sufferings, of others.

Fathers, mothers, brothers, sisters, masters, servants, what one of us, reckoning solemnly at night with his own soul, can say, not a single needless denial, not a single unreasonable request, not a rude, unkind look, word, or act, not one single unnecessary pain, have we inflicted during the day? Try as we will, we cannot evade the powerlessness of the word "unnecessary." "It parts a great chasm in our actions, separating right from wrong, with a vividness as unerring as the noon-day light."

"No man liveth unto himself alone." Though he be without all blood relations, he is not independent. He still maintains some sort of relation with his fellow man. If it is but the accidental association of student with student for a few terms under a common roof, be it boarding-house, class-room, or hall, what loneliest soul at night can dare say that not once since the day's sun arose has he caused unnecessary pain to a fellow associate.

We are very emphatic in our denunciation of the occasional glaring inhumanities in others, but fail most completely to behold our own. Ever ready to pluck the mote from a brother's eye, whilst the gigantic beam rests unmolested in our own, we are profuse in our ejaculations of horror at the monstrous cruelties recorded in the newspapers of the land, and we never think how close is the relationship in nature to our own habitual actions. The difference of degree is the blinding lens through which we look. But this difference of degree is not so great as we might suppose; and it is not so much a matter of virtue in us as it is a result of our surroundings.

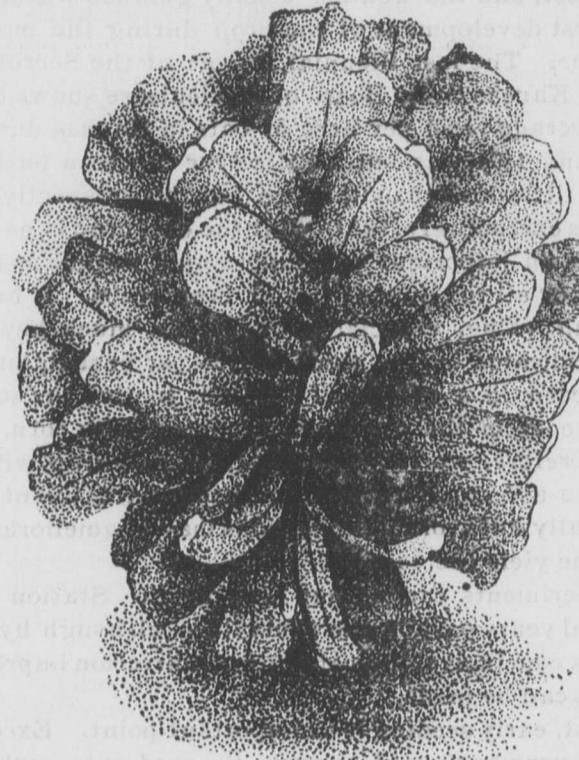
THE EYE, THE WINDOW OF THE MIND.

BY PROF. J. D. WALTERS.

THE illustrations on this page are photo-engraved specimens of work done by the regular class in object drawing of this College. They were not touched

and sketched in several positions. The sketches were then criticised, approved, and finished, the stippling being done in India ink, and with a common writing pen. Having received about one hundred fifty lessons in linear drawing (graphics), one term of free-hand drawing in the flat, and about thirty-five lessons in perspective, the majority of the class seemed to have no difficulty in drawing the cones rapidly, as well as accurately.

The ability to draw from the object means much for



the student of science and mechanics. It is directly valuable in the laboratory and the workshop. It is the key to every artistic engineering, and almost every manufacturing pursuit, yet its educational value is still greater. The given illustrations are not simply a proof that so much artistic skill has been acquired. Drawing is a language,—the language of form,—and the rapid and correct use of the pencil or pen shows that the represented forms were properly perceived, properly associated, and systematically analyzed. It shows that the student who drew them has learned to divest the object of its color, and invest it with strong light effects, and that he has learned to project objects having three dimensions into planes having but two dimensions. It is a better proof that the ends which geometry, as a branch of instruction, seeks have been attained, than any examination on the books of Euclid could furnish.

"The eye is the window of the mind" in more than one sense. The young woman who drew these illustrations from the object may never earn a dime by drawing or artwork, but she has learned one of the greatest arts man is capable of acquiring; that of seeing correctly.

The Independence of Farm Life.

It is very commonly said that life on the farm is the most independent life one can lead. As is the case with many other sayings, whether it be true or not depends upon what one means by it when he uses it. From an economic standpoint, the more complex a state of society becomes, and the greater the specialization, the more does inter-dependence take the place of independence in all callings. The time was when the farmers of America were, in an economic sense, the most independent class of people in the world, that is to say, they came the nearest to being sufficient unto themselves. A glance at the present writer's earliest recollections of farm life will explain what is meant by this. More years ago than we like to think of, we spent some very happy days on a farm in a distant eastern state. The farm house was a double log house, of squared logs, the work on which had been done from the stump by the head of the family and the "boys," a "raising," attended by all the neighbors for miles around, doing the final work of putting logs into position. The barn was a similar structure except that the logs were not squared. The "spring house," as the milk room was called, was also built of logs. Through it ran a little spring rivulet, confined in a trough, in which the milk crocks were set, always surrounded by cold, running spring water, and the butter made there was unsurpassed. All the outhouses were of the same primitive character. As may be supposed, the lumber bills were practically nothing.

The furnishing was equally simple and inexpensive. The dining table was home-made, the "settles," or benches on which those sat who ate at it, were also of domestic manufacture. Such rooms as were carpeted had carpets made on the home loom. Husk mattresses on the beds were covered with sacking made from flax grown on the farm, and spun in the house. All the bedding was home-made except one blue and white "pine-tree" spread in the best room. The furniture was chiefly the product of rainy days on the farm. The family table was bountifully supplied with wholesome food. There was tea, coffee, and wheat bread for "company," but the rule was

milk and rye bread, with buckwheat, and mush, all home grown, and ground at the grist mill for toll. No syrups were bought, but there was always honey. As for meats, there was poultry, veal, and occasionally a beef shared among the neighbors, and hog killing, with sausage making, pork curing, etc., was a regular industry in its season. Nobody ever dreamed of buying meats. The eggs came from the barn-yard flock, and the vegetables were all home grown, of course, both those of a perishable kind and those for winter keep. The fuel to cook all these things and to heat the house came from the wood lot, and the lights were candles dipped or moulded on the place from home-grown tallow. The clothing of the family was similar in its origin. There was "linsey-woolsey" and home-made flannel for the girls' dresses, all made of the same piece and of the same dark check, with perhaps a bombazine for best. The men wore "linsey-woolsey" and tow cloth in their seasons, all home-made. Their pantaloons were kept up by knit suspenders, they had home-knit socks on their feet, as their mothers and sisters had home-knit stockings; their shoes were made in the house from leather tanned on shores at the nearest tannery, from hides grown on the farm. The shoe strings and the "whangs" for mending harness were made of possum skin of the boys' own trapping, home tanned. The hats were fur caps from the same source for winter and home braided straw for summer. All the woolens had been grown on the farm sheep. All the flax and tow was home grown. Cotton was scarcely known.

The farm machinery was very limited in quantity and primitive in its character. Oxen were much used, and the boys made their own neck yokes and bows. Travel was rare, and far more rare still on railroad tickets and passes. Money was scarce and hard to get, but nobody seemed to want much of it, or if they did, the Conestoga wagon, that would hold forty barrels of salt, was hitched up, six horses in the team, and the old man went out to do freighting, or the boys went up into the hills to burn a charcoal pit or two, selling the charcoal to the iron furnaces. We might fill columns with details showing the extent to which the farmer of that day was sufficient unto himself, but these must suffice. The life was all of one piece in this respect. Farm wants were supplied on the farm.

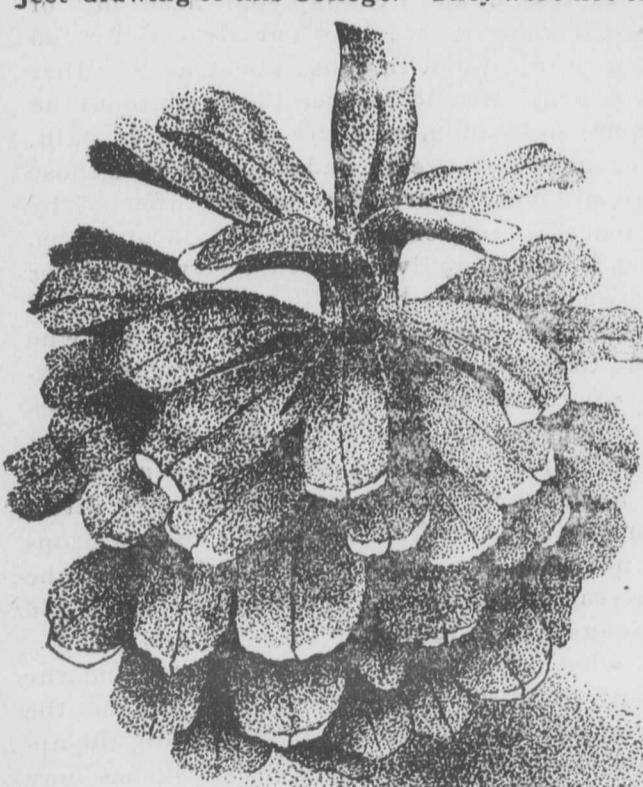
This kind of farming was in the highest degree independent. Trusts might extort, bears might depress prices, railroads might raise their rates, but no man nor set of men could in any way "corner" the necessities of life, nor even the rude luxuries of the farmer. As we remember it, the life was not an unhappy one, and great content prevailed. Those days, however, are gone in this country never to return. Society has become complex, every member of it is more dependent on all the other members, and the wants of life are not easily satisfied. The farmer relies, like other business men, upon sales of products for the means with which to supply his wants. He has become a part of an intricate social system, and cannot escape, even if he would. Disturbances of the social machinery pinch him. Injustice in the way the "wheels go round" oppress him. For his old-time independence, inter-dependence has been substituted. With these changes, must come changed methods. He must now be to a large extent a capitalist, a business man, and, in a way, a merchant. The rude, hap-hazard methods will no longer answer. In the old times, come what might, he was very little affected by events. We shall not say that the change is for the better or for the worse, but only that it is inevitable. Civilization, which brings many advantages, brings this inter-dependence in its train, whether it be an advantage or disadvantage. The old conventional idea about the independence of farm life is no longer what it once was. The farmer no longer stands aside as a mere observer of social, moral, and political movements affecting the economies of life. He is a part of them, and his material welfare depends upon the extent to which he realizes this fact and makes it his governing principle in all his actions. —*Live Stock Indicator*.

Farm Ownership.

It does not require the compilation of figures to show a change gradually working itself through the ownership of farm lands. It is a fact open to general observation that the farms of the country are gradually dropping into the hands of tenants, and in our opinion it is that much worse for the country. No one will dispute that the farmer has many advantages in working land owned by himself that can never accrue to him while the land is owned by another. One of the leading causes to be assigned for this state of things is the fact of a desire to overreach one's self in the possession of lands. To make use of a significant western expression, it comes of biting off more than one can "chaw." We have long advocated as the best policy for farmers to pursue in this matter that of cutting down their possessions in lands, rather than that of extending them. When the farmer makes up his mind to this order of things, it will be some time before the sheriff closes him out.

In the course of the next ten years we look for a stronger pressure than ever before brought to bear upon this matter of reducing the size of the farm. A new style of farming is gradually to come into vogue that will necessitate it. The extensions of irrigation systems and the growth and expansion of the subsoiling idea are destined to lead in the direction of intensive farming in the West. We are aware that it used to be fashionable to spread one's self out over a large area in his farming operations with a view of reducing the cost of production of crops. This day has passed. Things have changed; and if the farmer of today expects to continue to own his own land, he must give more attention to each individual acre, and see that it does its share.—*Nebraska Farmer*.

up, but show the work just as it was delivered to the Professor. Pine cones, picked up on the campus, were placed on the desk before each member of the class,



Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1895-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Miss Frisbie helped in the kitchen at intervals this week, during the illness of Miss Stokes.

Ex-Regent Secret found time to listen to a few more lectures in the short course during the week.

President Fairchild spent Wednesday in Topeka in consultation with Regent Goodyear in regard to investment of College funds.

Mr. T. C. Wells furnishes the *Nationalist* a three-column report of the short lecture course for farmers, including synopses of the papers read.

R. W. Hoffman, Second-year, dislocated his left shoulder on Thursday. This is the fourth time he has suffered from this displacement during the year.

Dr. Mayo was called to Tonganoxie on Saturday by the Live Stock Sanitary Commission to investigate a reported outbreak of glanders. He found two cases.

Mr. A. C. Holderbaum, solicitor for Thies & Parlin, live-stock commission merchants of Kansas City, visits College today with W. B. Henson, First-year. He promises that his first visit shall not be his last.

Mr. Sexton, the new Farm Foreman, brought his household goods up from Burlington this week, and is putting them in place in the new farm-house adjoining the College grounds on the Northeast.

Miss Stokes was kept from College duties several days this week by sickness. As a precautionary measure, the attending physician established quarantine, and the two younger girls were out of classes three days in consequence.

The atmosphere of the Chemical Laboratory was called into requisition on Tuesday for the disinfection of some of the library books which had been "exposed" to scarlet fever or diphtheria. A slight reinforcement of its natural germicidal powers does the work.

Mr. G. A. Watkins, proprietor of the Idlewild Stock Farm, Whiting, Kansas, visited College on Monday with his nephew, Mr. Chas. Hatch, of Manhattan. Mr. Watkins is a breeder of pure-bred Shorthorns of a number of popular families. He attended some of the lectures in the Short Course during the week.

The Alumni Association plans in a general way for a "big time" in the Triennial Reunion and Banquet on the evening of Commencement Day. That definite arrangements may be made, President Sam Kimble, '73, asks that all resident Alumni meet Saturday evening, February 29th, in the Reception Room at the College.

The *Orange Judd Farmer* prints an abstract of Miss Stokes' recent paper, "The Farmer's Hope," prepared for the State Board of Agriculture, in which the author wisely says: "The question that needs attention is, what is best to cook, not what is easiest and most quickly prepared. The frying pan is the curse of the American nation."

A "Valentine Social" was given by the Young Peoples' Society of the Christian Church at the residence of Secy. Graham last evening. About a hundred were present and took part in the various games, distribution of valentines, and a "Jack Horner" pie of huge dimensions. Light refreshments were served, and the party went home at a late hour with the consciousness of having had a "good time."

List of accessions to the library for the two weeks ending February 15th—11 bound volumes and 311 charts: Washington or The Revolution—a drama by Ethan Allen; Diseases of Horses and Cattle—McIntosh; Legislation Against Weeds—Dewey; Housing of the Working People, 8th Special Report Commissioners of Labor, 1895; Births, Marriages, Divorces, and Deaths in Maine, 1893; Herd Register, Vol. 44, 1895—American Jersey Cattle Club; Kansas Railroad Commissioners' 13th Annual Report, 1895; Government Publications—Rebellion Record, Vol. 46, pt. 3; Report of the Secretary of the Treasury, 1893—Finance; Report of the Secretary of War, Vol. 2, 1893; Same, Engineer's, pt. 4; 311 Charts of the United States Coast and Geodetic Survey.

The Chemical Department has recently received the necessary jars for exhibiting the fine suite of minerals, from the famous Stassfurt deposit, donated to the College by the German Kali Company. These minerals have been on hand for about a year and a half, but soldered up in a zinc-lined box on account of the deliquescent nature of some of them. They are now in the jars, and will be a useful exhibit for the students of agricultural chemistry and mineralogy. They embrace fine specimens of sylite, carnallite, schoenite, krugeite, kieserite, kainite, and polyhalite, the chief commercial interest in which lies in their potash content. Besides these, there are specimens of rock salt, anhydrite, stassfurnite, and others. The collection also includes a full line of the chemical

manures prepared from the minerals of this wonderful deposit of potash salts, a deposit of sufficient magnitude to supply the world with potash for some centuries.

"Diseases of Horses and Cattle" is the title of a new work of 380 pages from the pen of D. McIntosh, Prof. of Veterinary Science in the University of Illinois. It is written expressly for the farmer and stockman. It contains new methods of treating sick animals, discovered in Dr. McIntosh's twenty-five years of practice and experiment. It promises great value to those requiring such information. The book—price \$1.75 post paid—may be had by addressing the author at Champaign, Ills.

GRADUATES AND FORMER STUDENTS.

C. W. Thompson, '89, has opened a dental office in Holton.

Prof. S. W. Williston, '72, of the State University, visited in town last Saturday. He plans to spend his summer vacation in Europe.

C. K. Peck, Second-year in 1892-3, writes of continued interest in the College. He is teaching in the Indian School at Pipestone, Minn.

Chauncey DeWitt Yeoman, who took up his residence in this country on February 7th, is the son and heir of W. J. Yeoman, '93, Principal of Schools at Kinsley.

Fletcher M. Jeffrey, '81, a lawyer of Cripple Creek, has been elected Mayor of West Cripple Creek, one of the many new towns in the district. W. J. Lightfoot, '83, is City Engineer.

J. H. Rice, student in 1893-4, visited College on Tuesday with his cousin, Miss Leona Whitworth, who leaves in few days to join her parents in their new home near Kildare, Ok.

F. A. Dawley, '95, having finished a six months school at Waldo, Osborne County, visited College the first of the week, going to Osborne on Friday to read a paper before the Teachers' Association.

A. A. Mills, '89, Associate Professor of Agriculture in Utah Agricultural College, has just issued an interesting bulletin on "The Economic Production of Pork," the results of two years' experiments.

H. W. Mattoon, Second-year in 1891-2, visited College yesterday with his wife, *nee* Wilma Ogan, whom he married in December. Mr. Mattoon is traveling for a type-writer manufacturer, with headquarters, for the present, in Kansas City.

W. H. Olin, '88, Superintendent of the Osborne schools, observed Kansas Day in a novel manner by presenting the border drama, "Scotto, the Scout," founded upon incidents in the memorable days of Quantrell. The drama was written by Mr. Geo. F. Dewey, of Manhattan, and was presented under his direction.

The *Pathfinder*, of Glenville, W. Va., prints the following notice of the marriage of U. G. Houston, '81: "Mr. and Mrs. U. G. Houston left for Kansas, their future home, Monday morning. May joy go with them. No sweeter, better woman than Mayne Hays, the young bride, ever went out of Glenville, and everyone hopes that her future may be bright and unclouded." Mr. and Mrs. Houston have recently made Manhattan their home.

HARRY STONE AND GEORGE FRYHOFER.

The Sioux City Tribune of February 11th has the following account of the work of two graduates, of which brief mention was made in our last week's INDUSTRIALIST:

"This afternoon at 5 o'clock, at the regular monthly meeting of the Y. M. C. A., Mr. H. W. Stone ['92] will hand in his resignation as General Secretary of the local Association, to accept a similar position with the Y. M. C. A. at Portland, Ore. He will be succeeded by George W. Fryhofer ['95], who is at present the Educational Instructor, and who is very popular with all members of the Association.

"The fact that Mr. Stone will resign at this meeting of the Board will be a surprise to many of his friends, although it has been known for some time to the individual members of the Y. M. C. A. directory. His resignation will take effect about the end of the month, and he will take up his new duties at Portland on March 1st.

"The invitation to the new position was extended to Mr. Stone at the recommendation of the international committee in New York. In the new field the Y. M. C. A. work is not in a very flourishing condition. In the city of Portland there is one central association, which occupies rented rooms and a branch which owns its own building. H. A. Dummet is General Secretary at present, but he is also Traveling Secretary for Oregon, Washington, British Columbia, Colorado, and Idaho, and it is to relieve him of part of his work that Mr. Stone will take the position.

"Mr. Stone came to Sioux City in July, 1893, during the panic, about six months after the Association had entered the new building. Before coming, he was Acting Secretary for the State of Nebraska, with headquarters in Omaha. Prior to that time he was General Secretary at Atchison, Kas., and was engaged in similar work in Texas for a year. Since taking charge, twenty-seven different branches of educational work have been commenced, and the Association has had a flattering and steady growth. During the first year, in 1893, the Association was going from \$500 to \$600 a month in debt. It is now on a paying basis, and the outstanding indebtedness against the building has been reduced from \$70,000 to \$30,000.

"Secretary Stone expresses regret at leaving, as

he likes Sioux City and likes Iowa, but he realizes that he has much work before him.

"Geo. W. Fryhofer, Mr. Stone's successor, is a graduate of the Kansas State Agricultural College of Manhattan, Kas. [as is Mr. Stone]. He was President of the Y. M. C. A. branch in the College, and conducted it successfully. Since coming here a few months ago to take the position of Educational Instructor, he has made many friends. He is an enthusiastic worker, and his classes are thoroughly organized.

"When the fall term comes on, Mr. Fryhofer will be given an assistant."

The Closing Lecture on Value.

In the lecture yesterday, Prof. Will discussed the Austrian theory of value without which the study of this subject would be incomplete. While the conclusions of this school do not differ materially from those of the English economists, we find that they have gone deeper into the subject. In common with other economists, they show the ambiguity of the term value, but instead of throwing it out of their vocabulary, they would adopt the usage of the common people. Smith's classification of value in use and value in exchange, they consider as harmful as beneficial; since this distinction, together with the statement that diamonds have slight, while air has great use-value, has led economists to neglect use-value, the fundamental thing, and to concentrate their attention upon exchange-value, a matter of secondary and derivative importance.

Utility, or usefulness, of a good means that it can satisfy wants. The good may be valuable or non-valuable, denoting by the former those goods that are plentiful and free to all; by the latter, those which are both useful and scarce. The non-valuable are of most importance, the tendency being to turn the valuable into the non-valuable, as shown in the work in municipalization in England and America, and the general struggle for cheapness. They tell us that no good possesses intrinsic value, but that value is the result of usefulness and scarcity.

Upon the foundation stone of utility, they place subjective value, and upon this, objective value, meaning by the first the power to affect self; by the second, the power to affect objects outside of self. Each of these two, again, includes use- and exchange-value. Such things as food and clothing have subjective use-value, while subjective exchange-value is the estimation we put upon the money equivalent of a good; and by objective exchange value, they mean price.

Man's wants are of different degrees; so are the satisfactions, the goods that give the satisfactions, and the value of these goods. The place, then, that a good holds in the value scale depends upon its class-importance and its scarcity or abundance; but since it can satisfy more than one want, its value is fixed by the lowest use to which it is put; i. e., by its marginal utility. As there is an individual scale of wants, so there is a social scale indicated by the price lists. The Austrians do not believe in a universal theory of price, since unmitigated selfishness is not characteristic of all men; but they hold that in some circumstances, as in the stock and produce-exchanges, the general principles will hold true.

In the determination of price, they consider four cases: First, isolated buyer and seller, in which the price is somewhere between their respective valuations. Second, one-sided competition of buyers, in which case the price is fixed by the weakest buyer who succeeds in buying; or one-sided competition of sellers, when the price is determined by the weakest seller who just succeeds in selling. Third, complete competition in which price is fixed by the weakest buyer who can buy and the weakest seller who can sell, the two being called the "marginal pair." The fourth case is most truly typical of the great modern market to which men bring goods made simply to sell; goods which, once on the market, must sell for what they will bring. The price here is fixed by the weakest buyer who succeeds in buying. If the supply is sufficient for all buyers, the price will be petty; but if just sufficient for a few strong buyers, these will drive the weak buyers from the field by lifting the price beyond, yet just beyond, their reach. The strong thus take off the supply at the lowest price that will enable them, rather than their weak competitors, to get it.

This theory does not overthrow the old theory of supply and demand, but makes it clearer and fuller. It shows supply and demand to be equal at the market price. On the other hand, the Austrians hold that instead of the price of freely reproducible goods being determined by cost of production, the sum that capable buyers are willing to give determines the price; and that it determines not only this, but the cost of production itself, since if cost is too high, producers must lower it or fail to sell their goods; and the value, even of the land, capital, labor, and marginal ability employed in producing the goods. Price thus becomes a thing wholly of the mind, a subjective, mental phenomenon.

Judge Wellhouse's Lecture.

Judge Wellhouse, President of the State Horticultural Society, gave an interesting and instructive address on Thursday afternoon, in the short course, upon obstacles to successful orcharding. It is scarcely possible to give an outline of the abundance given in the nearly two hours during which Judge Wellhouse was kept talking and answering questions. Among the chief obstacles, the first named was the difficulty in selecting varieties, hardy in our climate, prolific and marketable. The Judge was fifteen years studying this problem before beginning his orchard planting, and after twenty years of experience with

the six varieties chosen for trial, commends the Missouri Pippin, the Ben Davis, and the Jonathan as meeting the requirements of commercial orcharding.

The next great difficulty, of getting an orchard planted in season, he has overcome by raising trees on the premises, setting them in furrows prepared to fit the size of the tree-digger, all earth which adheres to the roots being transported to the new site for the tree. In this way the trees are but a few minutes on the way from nursery to orchard, and scarcely feel the change. Most of the covering, as well as the cultivation, is done by plowing a succession of narrow but deep furrows around the row of trees set north and south sixteen feet apart.

For meeting insects, scab, etc., the Judge favors thorough spraying with London purple and Bordeaux mixture; and has himself invented sprayers and nozzles for that purpose. Against winds, protection on the south and west is advantageous. Against deterioration from exhaustion of the soil, he sows clover to remain upon the land permanently without removal of any of the product. It re-seeds itself. Against glut of the market, he employs cold storage from October to April.

COLLEGE ORGANIZATIONS.

Student Editors.—May Bowen, J. B. S. Norton, John Poole.

Alpha Beta Society.—President, A. C. Peck; Vice-President, Grace Secret; Recording Secretary, E. A. Powell; Corresponding Secretary, Etta Ridener; Treasurer, Guy Hulett; Critic, Inez Palmer; Marshal, W. H. Ellis; Board of Directors, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, E. H. Webster; Vice-President, E. G. Gibson; Recording Secretary, W. J. Rhoades; Corresponding Secretary, J. B. Norton; Treasurer, E. E. Butterfield; Critic, T. M. Robertson; Marshal, H. L. V. Uhl; Board of Directors, F. H. Myer, J. E. Trembley, C. H. Stokely, J. H. Bower, T. W. Allison.

Hamilton Society.—President, John Poole; Vice-President, G. C. Hall; Recording Secretary, A. L. Frowe; Corresponding Secretary, L. A. Fitz; Treasurer, G. G. Menke; Critic, C. F. Doane; Marshal, W. J. Goode; Board of Directors, J. W. Holland, S. J. Adams, A. W. Staver, C. E. Copeland, A. J. Pottorf.

Ionian Society.—President, Clara Newell; Vice-President, Gertrude Lyman; Recording Secretary, Minnie Spohr; Corresponding Secretary, Olive Long; Treasurer, Mary Norton; Critic, Miriam Swingle; Marshal, Hattie Goode; Board of Directors, Minnie Pincomb, Ellen Norton, Gertrude Lyman.

February 7th.
Once more the Ionians came together for their Friday afternoon session, and at the sound of the gavel all was quiet and the regular afternoon work begun. The program was rather short, but what it lacked in length was made up in quality, for it was certainly a most interesting one. The program was opened by a poetical essay entitled "The Leap Year Party," given by Nellie Burtner. Tacy Stokes rendered a piano solo. Wilhelmine Spohr gave an *Apostrophe* which was original. The question for debate was, "Has the United States just cause for declaring war against England?" The speakers on the affirmative were Flora Allingham and Jonanna Freeman, and on the negative Emma Finley and Phoebe Smith. Many good points were brought up on both sides, and the debate throughout showed careful preparation. Maggie Correll next entertained the Society with a vocal solo. The Oracle was presented by Clara Newell. May Bowen gave a piano solo. The last piece on the program was an impersonation by Ida Walters, Emma Doll, and Flora Allingham. After the regular order of business, the Society adjourned to be called to order again in five minutes in executive session.

February 7th.
That the interest in the Alpha Bea Society is increasing, was manifested by the large audience which greeted President Peck when he called the Society to order. The program was opened by congregational singing. Miss Kneeland led the Society in devotion. Miss Finley and Messrs. Crowl and Clothier, in a vocal trio, entertained the Society in a very pleasant manner. Misses Mary Pierce and Nora Reed were then added to the list of Alpha Beta workers. J. B. S. Norton, in a well prepared oration, told us that in all conditions of life, in society or places where people come in contact, there is some one who takes the lead. What is this personal power, which all wish but few possess? Many, seemingly accomplished when first entering college, are the objects of much personal attraction, but soon give way to the poorer student who by honest labor has worked his way through College. The men whom we look up to are honest; honest because it is right. They do the best they can, and when they fail they are not ashamed to own it, but make it a stepping stone to something higher. The hypocrite may win our affections for awhile, but soon fades away while our hero leads an open life. He is one whom we look to and say, "I would like to be like him." H. Blair delivered a very interesting declamation. A chorus of male voices then greeted Society, accompanied by a paper band, and in a very pleasing manner rehearsed the "Hamilton Annual." The Gleaner, presented by Grace Secret, with the motto, "Get up and Dust," was one of the best of the term. After recess, Misses Grace Secret and Mabel Cotton, in a vocal duet, displayed their ability in the line of music. After some very interesting extemporaneous speeches, the Society indulged in a short business session. M. E. R.

February 8th.
The rap of Pres. Poole's gavel began one of the best sessions the Hamilton Society has enjoyed during this College year. The room was well filled with members, and a number of visitors were present also. C. E. Pincomb led in prayer, and after reading of the minutes, O. N. Vinall, F. M. Gleason, S. L. Hackett, G. W. Green took the oath of allegiance to the Hamilton Society. A very interesting and instructive program was begun by a lively debate on the question, "Be it enacted, That the abandoned Fort Hays Military Reservation and the buildings thereon shall be granted to the State of Kansas for the purpose of establishing and maintaining thereon; first, a western

branch of the Kansas State Agricultural College; second, a western branch of the Kansas State Normal, and that the reservation be used and maintained as a public park." The affirmative, Messrs. Yeoman and Whipple, held that such a College would be a great benefit to the country and to the people living there; because at such a college they would get instruction that would enable them to till the soil successfully and keep it from deteriorating so rapidly. Also that, owing to the difference of climate, the experiments carried on here did not benefit the western farmers. On the other hand, G. C. Hall and J. M. Kessler argued that a few men were trying to derive this benefit at the expense of the State, and that the land was so poor as to render it practically useless to try experiments for their benefit. The argument was enlivened by brilliant flashes of wit and stories of the fabulous wealth and resources of this western desert. The question was won by the affirmative. "Is all gold that glitters?" was the title of an excellent oration given by H. E. Smith. Among other good thoughts in it were, "Character is what we are; reputation, what people think we are." "As time goes by, we see our mistakes, but too late to correct them." O. W. Strahl, assisted by G. G. Menke and Leslie Fitz, favored the society with instrumental music. M. W. Sanderson in an oration told of some of the tricks and schemes of "Political Bosses." Select reading by H. H. Drake was a description of the ludicrous performance of a couple on an icy pavement. R. M. Philbrook discussed the various phases of the subject "Profit sharing." After recess, J. D. Trumbull presented a good edition of the Recorder. Messrs. Johnson and Marty gave an excellent instrumental duet, responding to a hearty encore. The remainder of the session was spent under the head of "Unfinished Business." L. A. F.

February 8th.

A large number of Websters responded to President Webster's call for order at 7:30. After roll call, the Society was led in devotion by E. G. Gibson. F. B. Connor, H. Hanson, H. Haubs, C. C. Neilson, F. C. Sweet, F. Walters, and T. Windachefel were admitted into the society and formally adopted. The debate was upon the question, "Should the formation of socialistic societies be encouraged?" R. W. Bishoff, in upholding the affirmative, said that people usually look at socialism in a wrong light, and in fact place it alongside of anarchy; the two are, in fact, as far apart as they can be. They also have wrong ideas about the working of the socialistic plan which cannot be cleared up without the experiments being tried. The objection that, under socialism, the "spoils system" would be used too freely, is done away with by the introduction of civil service reform. Socialism would not necessarily mean centralization of government and industry, loss of inventiveness and enterprise, and payment for idleness. He brought up many good examples and proofs from our present day civilization. A. K. Barnes on the negative, said that socialism meant many of the things that the affirmative said it did not mean. He brought out many of the difficulties that would be encountered in governmental control of industry, and graphically pictured a socialistic community laboring under these disadvantages. Many of the so-called socialistic industries, as schools, postal-system, etc., are not on the socialistic plan. The society decided for socialism. After the debate, the Society listened to an excellent instrumental duet by George Doll and R. J. Peck, who, by prolonged applause, were induced to give the society another selection. T. M. Allison gave the Society an excellent essay on Florence, Marion Co., Kansas. C. Payne appeared before the Society with his first declamation, which was on Robert Burns. M. Wheeler gave an oration on the analysis of foods. C. B. Patten gave an excellent number of the Reporter under this motto: "Beware of those that sing their own praises." Among some of the best pieces were, "The Wonderful Second Year," "Narrow," "Our Childish Days," "A Letter from Billtown on the English Question." G. W. Owens favored the Society with a German song, "Die zwei Deutche," which was highly appreciated. F. T. Anderson and H. C. Turner thoroughly discussed the question of studying on Sunday, and brought out many points on both sides. The remainder of the session was spent in unfinished and new business. J. B. N.

Good Work of the Institutes.

We think we can very easily see one of the good results accomplished by Farmers' Institutes already, in the fact that there is an increasing demand for agricultural literature all over the country. A wide field for literary effort and brain work is opening up before the progressive farmer, and he is trying to meet the emergency. Speculative and pet theories are not wanted, but plain, practical truths and facts are in demand—something that can be turned to good account in the various avocations on the farm. The publishers of our agricultural papers begin to feel that they have been called to a higher plane, and, that they, too, must do more and better work if they would keep abreast of the times and retain the good will and favor of those who look to them for advice along the channels of the ripest experience and most progressive thought. The *Epitomist* is going to do its duty in this matter, and will use its best energies to keep in touch with the most practical agriculturalists, and from them will glean such information and advice as seems best adapted to meet the requirements of our thousands of readers all over the land. And in this work we ask the hearty co-operation of each and every one who feels that he has a mite to contribute that will benefit his fellows. This is in every sense a very practical age, and in order to accomplish the most we must keep up to the point where we can build upon what foundations others have laid before us, or along side of us, and erect thereon a superstructure of the most magnificent proportions.—*Agricultural Epitomist*.

Dates and Appointments at Farmers' Institutes.

Russell, Russell Co., February 20 and 21; Prof. Hood, Prof. Mayo. Cherryvale, Chataqua Co., February 20 and 21; Prof. Graham, Prof. Mason. Concordia, Cloud Co., February 27 and 28; Prof. Georges, Prof. Will. Garden City, Finney Co., February 26, 27, and 28; Pres. Fairchild. Newton, Harvey Co., March 5 and 6; Prof. Walters, F. C. Burtis.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. The *INDUSTRIALIST* may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popenoe, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc., may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

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THE WORK OF LITERATURE IN THE HOME.

BY PROF. O. E. OLIN.

A HOME is a very complex affair. We recognize this when we say that the unit of society, and at last the nation, is the home. Its interests are far-reaching enough to include all the interests upon which we base society or the state or the nation.

And not only is the home the unit of the nation; it is also the center around which all activity moves. Manufactures spring up, communication is opened, and new markets are sought, in the interest of our homes. Men are scouring the land and the sea that your home and mine may be better supplied. The work of the biologist, the chemist, or the physicist is never complete until he has made direct connection between all his great discoveries or inventions and the daily life of the home.

Home, in its complex nature, is yet another thing to us. It is the inspiration point of thought and hope. Men think they are fighting, and perhaps dying, for their country; but really it is for some little home upon the hillside or the prairie. True patriotism has its strongest roots in home. All our hopes for the future center about home. We never sing of a corporation, or community, or a commonwealth "over there," but always a home.

Many things must combine to make what we call home—to minister to its welfare, its enjoyment, and its culture; and not the least of these is literature.

The work of literature in the home is as varied almost as home interests are, but I shall speak of these phases: information, recreation, development and culture, and power; and in literature I shall include all kinds of books and reading.

The home, today more than at any other time, needs the stirring of thought—thought that is clear and accurate. The problems of today are not easy of solution. They are no longer the adjustment of conditions to our needs; but rather the adjustment of ourselves to conditions that have become more or less fixed. And these problems appeal to us more in a personal way than public questions are used to do. Moreover, the world in change and progress is moving so fast that men must be active to keep abreast of their own times.

The literature of information must be well represented. Day laborers now, in the moments of rest, are discussing matters that only a scholar could be supposed to touch two generations ago. The teachers in our public schools are sending home by the little ones questions that even teachers themselves were not required to know in the previous generation.

Almost every day there arise matters that require some authority at hand. Every home should have an up-to-date dictionary and a cyclopedia—a good cyclopedia, not necessarily a high-priced one. The many-volumed cyclopedia, with its cumbersome cross references, is not the best thing for the home. A good atlas of the world is also necessary. One to answer all purposes need cost only two or three dollars. Equipped with these three, one is prepared to understand all the popular literature of information, whether descriptive, scientific, or narrative,—all literature, in fact, except the purely technical work of the specialist.

The home must keep up with current events. Special lines will be provided for as working tools in a man's particular business; but I mean matters of such general interest as invention and discovery, history, politics, sociology,—things that do not, perhaps, touch us personally, but do have their effect in working out the destiny of the human race, a destiny which, we are just beginning to believe, includes every mother's child. In every house there should be a good family paper, with departments to interest all the members of the family. The little children should not be forgotten. There should be also a good newspaper,—one not devoted to sensation and criminal news. There is great advantage in keeping track of the world from day to day, or from week to week. It broadens life, and gives food for thought. There is no reason why the clerk at his counter, the mechanic at his bench, and the farmer at his plowing should not be thinking of the same things. Children brought up in such an atmosphere lose warped and provincial ideas.

There is very little literature that has no other object than recreation; but much of the various kinds can be read for that purpose, the reader getting incidentally the information or the culture. Of this nature is a great deal of the magazine literature of the day and the sparkling essays of the last hundred

years. The value of this reading is shown in many ways. It lifts one out of disagreeable mental conditions. It calms the mind and turns it from worrisome subjects. Mental recreation is necessary to sound mental life. The man needs it; children need it; and especially the mother, with her more monotonous life, needs time and material for this kind of reading. It breaks up old conditions, and gives new outlooks of life.

Universal experience would doubtless develop all the faculties, or qualities, that enter into that harmonious expansion that we call culture. If one could live before or among all the beauties of earth and sea and sky, if he could converse always with the wise and good, if he could take part in heroic deeds, if he could give himself in sacrifice, if he could himself test all knowledge, and undergo all pure feeling, experience would make him cultured; for it would give him the ability to respond to all the universe of good.

But universal experience does not fall to the lot of many: it must be acquired at second hand; and here comes in the field of literature, to furnish in this rounded development all that experience does not.

This development must begin through stimulating and training the imagination. One who has little imaginative power cannot be impressed by beauty of sense or thought. Part of the work of literature is to train the imagination to reproduce with absolute fidelity every scene described, and to carry out readily all suggested details; to hold before the mind, by determinate act, an object till it shall be as clear almost as in a picture.

The faculty thus trained becomes useful also in other lines than the one exercised. It gives a quicker perception, a stronger grasp of power, a fuller sense of realizing everything, and so passes into the culture of the person, to show forth again in all his conceptions of truth and strength and beauty.

A great deal of this development and culture can be and must be given in the home. It is personal, appealing to each in an individual way. At the last, literature must be trusted to do its own work of culture. The finest things of experience and of literature often glide into our lives imperceptibly. The ministrations of beauty are mainly in silence. You can be brought face to face with it, but if you do not recognize it, no outside power can help you. We sometimes try to help too much, and our efforts become intrusive. I may give a book to a friend and tell him he will be glad to read it; but it would be impertinence for me to say, "In such a chapter you will find your ideal of life. You will be struck by the beauty of such a passage. Such and such a thought will give you strength."

A certain amount of help is judicious, even necessary; but it must be wisely given as to amount and time. I protest against the study of literature by dissection till every thought is separated, analyzed, and parsed. The beauty of literature does not reside in subject, predicate, or object; it is not found in nominative, possessive, or objective case. Many a man can no longer feel the force of some majestic passage in literature because it has become so intimately associated with the difficulties of syntax and etymology.

In the selection of literature at the beginning, taste must be the basis. That is, if a boy wants stories, let it be stories only of the best kind. If he wants adventure, he can find plenty of it of a healthful and stimulating kind in standard works. I think we need not worry about the heterogeneous reading of young people so long as it is on the proper plane. There may seem to be no system in their work, and indeed there may be none, but sometime, when there comes a touch of culture, it will all find its place. Taste changes with the years. What occupies a boy's thoughts now may drop out of his life in three or four years. Taste is an improvable faculty, and it is part of the work of literature, through the development of the taste, to lead young people into the field of culture and the field of power.

But this literature must be on the plane of culture. It must absolutely keep out the low, the dark, the impure.

In the literature of power, we find what great minds have thought on the problems of life. To follow Socrates and Plato and Homer and Marcus Aurelius and Dante and Milton and Carlyle and Emerson is not only to become cultured, but to become strong.

Some of this literature of essay and epic poetry

should be in the library of every home. You may not be able to see just what elements of strength it has furnished, but it will be sure to do its work.—*Excerpts from a recent paper.*

PHOTOGRAPHY AT THE COLLEGE BY ROENTGEN'S X-RAYS.

PROFESSORS FAILYER, Nichols, and Willard have been conducting some experiments in the so-called photography, by means of the form of energy recently brought into prominence by Professor Roentgen of Wurzburg, Germany, and have prepared the following for publication in the INDUSTRIALIST:—

"Immediately upon the announcement in the daily press that the new photography was accomplished by rays proceeding from a Crookes vacuum-tube, we made a few attempts to obtain effects on photographic plates protected from light and covered in part by platinum. Only negative results were obtained, due, as it now appears, to insufficient exposure. The induction coil at our command is far less powerful than those described as used by others, and although by its means we can excite bright phosphorescence in the Crookes tubes, the intensity of the Roentgen rays seems to be small.

"An unsuccessful attempt was also made by actuating the Crookes tube by means of a Toepler-Holtz machine, the Crookes tube being connected with the discharging knobs of the machine.

"Becoming convinced that electricity of higher potential was essential, it occurred to us to accomplish the result by setting the Crookes tube at such a distance from the knobs of the Toepler-Holtz machine that the sparks would be obliged to jump a distance of an inch or more at each end of the tube. In this way, by an exposure of three-fourths of an hour to an hour, we obtained distinct impressions from keys, coins, and an iron ring.

"We very soon found, however, that the shock of the discharges was too severe a strain upon the Crookes tubes. An arrangement was therefore made in which the Crookes tube is wired by its electrodes to a pair of brass knobs, one of which is wired to one knob of the Holtz machine, while the other is placed at sparking distance from the other knob of the machine. In this way the discharge is made to pass through the Crookes tube without sparking it directly.

"To avoid the inconvenience of turning the Holtz machine, we have attached it to a Griscom motor, which does the work very satisfactorily.

"With this arrangement, several negatives have been made, one of which possesses more than ordinary interest. In it the impressions of the metals are all darker than the remainder of the plate, a condition which we can account for only by supposing that the plate was over exposed, thus making the deposit thin, while the darkening under the metals is due to their partial permeability to the Roentgen rays. The plate had been exposed about four hours. Other plates, exposed to exactly the same influence for two and three hours respectively, developed in the ordinary way; that is, lighter under the metals than elsewhere.

"Another feature which we wish to note, which seems to us as of possible significance, is the fact that in the development of the plate, the image is seen at the back at about the same time as on the face of the negative. It is recognized that the immediate cause of the action of the Roentgen rays on a photographic plate is not yet known. It may be from their specific action or from a fluorescence produced by them. The fact noted above may have a bearing on this point, and other experiments will be made in an attempt to throw light upon the subject.

"After succeeding in making negatives by the method described, we again tried the induction coil actuated by four cells of a bichromate battery. It gives sparks of a little over an inch in length. A plate exposed three hours to this gave us the best impressions we have of metal letters and objects. This is with a different Crookes tube, however, which may also have something to do with the result.

THE SEA'S BREEZE.

BY JOSEPHINE HARPER.

TO me one of the rarest things in the world is the sea. It has always health to spare. Its resources of recuperative influence are limitless. Its healing power is as wonderful as the hidden springs and abiding saltiness.

When I stand on the sea's rim, it seems to me as if the world was in its youth again, and that no change or signs of decay could ever come to the shore. Here is life for all. See the tired, weary, nerve-exhausted devotees of business or fashion thronging the coast as the hot days come, and watch the change made by the soft sea-wind and cooling waves. Children, too, grow

ruddy and playful by a change to the sea-shore from the stuffy houses, over-heated bed rooms, and poorly ventilated school rooms. Even poor little babies, that have been fighting for life for months, find new life and strength in the briny breezes of the sea.

The sea's breath is always pure as it blows upon one from the great waves, and far in from the coast the salt in the air can be felt, and its tonic properties be enjoyed. There is many a joyful heart of man and woman now, that once flickered like a dying light over some suffering friend that has since been restored to health and full vigor of life by the gentle and invigorating wind of the sea. I wonder if the sea is not the real Fountain of Youth,—the sweet restorer of life, the strong health-bringer to the sick and suffering. Does it not hold the key of nature's treasures, and distribute them without discrimination?

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Looking at the sea made brilliant by the rays of sun sinking deep into the waters, I think of how the waters drink in the sunshine and store it for the healing of future generations. The deep seas absorb the fiery rays from the equator to the poles, and its coolness remains undisturbed. There is no useless strife in nature, for the balancing of the forces is sweet melody of creation.

The sea is a stormy, turbulent body only on surface and its edges. It is an embodiment of power, healthful quiet, and restfulness the world over, giving peace and repose in which human life, life of beasts and birds, is possible.

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In planting trees, the farmer should not exclude either of the classes named. He should, for his own sake and for the sake of his family, make the appearance of his home attractive by planting at least a few ornamental trees. He can well afford to give the use of a little land for this purpose. The trees that yield substantial returns should also be planted. In all sections in which they thrive, apples, pears, peaches, and similar fruits should be well represented by the finest varieties which succeed in the locality in which they are to be planted. These should be grown for family use. Upon many farms, considerable quantities may profitably be grown for sale. But, unless it has already been provided for, the family supply should be the first consideration. Then, in addition to the trees commonly grown for fruit, nut trees of some of the most promising classes and varieties may well be tested where the conditions are such as to give a reasonable hope of success.

The location of the trees to be set is a point deserving careful thought. It is an easy thing to plant a tree almost anywhere on the farm, but it is an altogether different matter to change its location if its original place was not well chosen. Ornamental trees should be placed around the buildings, but how near together, and in what relative positions, should be determined by the character of the trees and the special conditions of the individual case. The arrangement should be pretty rather than formal, and should be carefully adapted to the natural features of the place that is to be adorned. Fruit trees should be set in soil that is well adapted to their needs, but it is desirable that they should be only a short distance from the buildings. This, for the double reason that such a location will be convenient for gathering the fruit, especially that which ripens early in the season, and that trees thus situated would be more likely to receive proper and prompt attention in the way of cultivation, destroying insects, and pruning than they would if placed far from the house.

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The farmer is certainly interested in good roads. There are no terrors in road congresses to farmers who are up with the times on the question of good roads. They have long since seen the necessity of having good roads and they have made them. The hustling farmer regards the roads along his farm as much his charge as the lands he owns. He pays taxes to the middle of the public highway and uses the whole highway between the fences. When the spring time comes he does not dread to work out his poll tax, but goes at it with a hearty good will and never quits before time. During the fall he works out his land tax and donates much more in order to keep the road in good condition. He has a care for the grade, for the drainage and for the appearance of the land between the track and his fences, and he gets a great deal of satisfaction from this practice.—*Farmer's Guide and Home Companion.*

should be in the library of every home. You may not be able to see just what elements of strength it has furnished, but it will be sure to do its work.—*Excerpts from a recent paper.*

PHOTOGRAPHY AT THE COLLEGE BY ROENTGEN'S X-RAYS.

PROFESSORS FAILYER, Nichols, and Willard have been conducting some experiments in the so-called photography, by means of the form of energy recently brought into prominence by Professor Roentgen of Wurzburg, Germany, and have prepared the following for publication in the INDUSTRIALIST:—

"Immediately upon the announcement in the daily press that the new photography was accomplished by rays proceeding from a Crookes vacuum-tube, we made a few attempts to obtain effects on photographic plates protected from light and covered in part by platinum. Only negative results were obtained, due, as it now appears, to insufficient exposure. The induction coil at our command is far less powerful than those described as used by others, and although by its means we can excite bright phosphorescence in the Crookes tubes, the intensity of the Roentgen rays seems to be small.

"An unsuccessful attempt was also made by actuating the Crookes tube by means of a Toepler-Holtz machine, the Crookes tube being connected with the discharging knobs of the machine.

"Becoming convinced that electricity of higher potential was essential, it occurred to us to accomplish the result by setting the Crookes tube at such a distance from the knobs of the Toepler-Holtz machine that the sparks would be obliged to jump a distance of an inch or more at each end of the tube. In this way, by an exposure of three-fourths of an hour to an hour, we obtained distinct impressions from keys, coins, and an iron ring.

"We very soon found, however, that the shock of the discharges was too severe a strain upon the Crookes tubes. An arrangement was therefore made in which the Crookes tube is wired by its electrodes to a pair of brass knobs, one of which is wired to one knob of the Holtz machine, while the other is placed at sparking distance from the other knob of the machine. In this way the discharge is made to pass through the Crookes tube without sparking it directly.

"To avoid the inconvenience of turning the Holtz machine, we have attached it to a Griscom motor, which does the work very satisfactorily.

"With this arrangement, several negatives have been made, one of which possesses more than ordinary interest. In it the impressions of the metals are all darker than the remainder of the plate, a condition which we can account for only by supposing that the plate was over exposed, thus making the deposit thin, while the darkening under the metals is due to their partial permeability to the Roentgen rays. The plate had been exposed about four hours. Other plates, exposed to exactly the same influence for two and three hours respectively, developed in the ordinary way; that is, lighter under the metals than elsewhere.

"Another feature which we wish to note, which seems to us as of possible significance, is the fact that in the development of the plate, the image is seen at the back at about the same time as on the face of the negative. It is recognized that the immediate cause of the action of the Roentgen rays on a photographic plate is not yet known. It may be from their specific action or from a fluorescence produced by them. The fact noted above may have a bearing on this point, and other experiments will be made in an attempt to throw light upon the subject.

"After succeeding in making negatives by the method described, we again tried the induction coil actuated by four cells of a bichromate battery. It gives sparks of a little over an inch in length. A plate exposed three hours to this gave us the best impressions we have of metal letters and objects. This is with a different Crookes tube, however, which may also have something to do with the result.

THE SEA'S BREEZE.

BY JOSEPHINE HARPER.

TO me one of the rarest things in the world is the sea. It has always health to spare. Its resources of recuperative influence are limitless. Its healing power is as wonderful as the hidden springs and abiding saltiness.

When I stand on the sea's rim, it seems to me as if the world was in its youth again, and that no change or signs of decay could ever come to the shore. Here is life for all. See the tired, weary, nerve-exhausted devotees of business or fashion thronging the coast as the hot days come, and watch the change made by the soft sea-wind and cooling waves. Children, too, grow

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Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Chris Kenney, First-year, has dropped out of College.

Inez Palmer, Fourth-year, has been kept from classes this week by sickness.

Mark Kirkpatrick, Fourth-year, was out of classes two days this week on account of sickness.

Prof. Olin was one of the judges on thought and composition, at the State Oratorical Contest at Topeka, last evening.

A number of changes in assignments are made necessary by the weaknesses revealed in the mid-term examinations of a week ago.

Much of the usual Saturday work of shops, offices, and laboratories is deferred until Monday, that the working force may observe the holiday.

Mrs. Breese suffers from a severe attack of erysipelas in the face, though the progress of the disease is now checked, and early recovery is expected.

Alex Wilson, Second-year, regrettably drops out of College for the remainder of the year to work in a Linn County newspaper office. He expects to return in the fall.

Though there was no chapel program during the college social, last evening, everybody present who came with that intention was entertained and did his part in entertaining.

Minnie Pincomb, Fourth-year, surprised her friends by returning unexpectedly, on Monday. She has been absent a month at the bedside of her sister, who is in a fair way to recover.

E. B. Coulson, Fourth-year, spent the greater part of the week at his Oklahoma claim. He has ninety acres of wheat in fine condition, and indications are favorable for a big crop in all parts of the new country.

Interesting numbers on the program of the J. Abbie Clarke Concert, at the Opera House, Saturday evening last, were the chorus, drilled by Prof. Brown, in which many students took part, and the solo by Mary Lyman, '94, both of which are highly praised.

Prof. Georgeson has been requested by the Department of Agriculture at Washington to prepare a bulletin on Kaffir corn for distribution among farmers throughout the country, who have flooded the office of the Secretary of Agriculture with inquiries concerning this, the coming crop.

List of accessions to the library, week ending February 22nd: Railway Signaling, W. M. Grafton; Emergencies in Railroad Work, L. F. Loree; Trees of the Northern United States, A. C. Argar; Berkshire Year Book, 1895; Bulletin American Museum of Natural History, Vol. 7, 1895; New York Agricultural Experiment Station, 1895; Fur Seal Arbitration at Paris, Vol. 15; Report of the Comptroller of the Currency, Vol. 1, 1892; Report Secretary of the Navy, 1894; U. S. Department of Agriculture, Report of the Pomologist, 1894, S. B. Heiges.

The Third Division of the Seniors celebrated Washington's Birthday yesterday, in a most interesting program printed in the national colors, the hatchet of history being printed as a back ground in blue. The program follows: "Great Occasions Call Forth Great Men," L. W. Hayes; Debate, "Is Patriotism Declining?" E. C. Joss and Marian Jones; "The Misuse of the Flag," M. Kirkpatrick; "The Christian in Politics," A. C. Havens; "Anecdotes of Washington," Hattie Paddleford; "Washington as a General," H. G. Johnson; "Why Have we so few Patriots?" J. W. Holland. The musical numbers were in keeping with the program, as the titles attest: "Old Glory," and "Red White and Blue," by the Cadet Band.

GRADUATES AND FORMER STUDENTS.

Verta Cress, '94, is the latest addition to the forces of the post-graduates.

L. P. Brouse, '86, has opened an architect's office in Kansas City, Kansas.

Bertha Winchip, '91, visited College on Wednesday to show an aunt the many things of interest here.

W. M. Amos, student last year, visited College on Tuesday. He is employed in the *Monitor* office at Leonardville.

C. C. Smith, '93, writes from DePauw University, where is taking a course in journalism, that he has extended his course for another year.

F. A. Waugh, '91, has been elected to the chair of horticulture in the University of Vermont, with the duties of Horticulturist in the Experiment Station. Prof. Waugh has given a three month's course of lec-

tures in the University by special engagement, and now is elected to the professorship at a salary of \$1500 for the first year.

S. N. Chaffee, '91, spends two days in the library. He teaches near Riley, shaping his affairs in the meantime to take a course in medicine at Kansas City, next year.

W. H. Steuart, '95, writes from Victor, near Cripple Creek, Colorado, that he is engaged in mining, surveying and casting sly glances at favorable localities to locate a claim.

The Leonardville *Monitor* announces the forthcoming marriage of John B. Harman, '95, and Sarah Evans, student in 1890-91, at the home of the bride's parents, near Riley, February 27th.

G. E. Hopper, '85, Superintendent of the waterworks of Arkansas City, Kansas, reports the arrival of another son. He adds that if he does not accumulate lots of shekels he is getting plenty of experience and some gray hairs.

THIRD CLASS-LETTER OF '92.

Such is the title of a neat little volume just issued. Every member of the Class responded to the invitation to write, and the result is a breezy collection of letters from widely divergent points, showing varied tastes and interests. The portraits of four class babies (as Mr. Clothier says, there may be others) grace the pages of the book, and are reproduced herewith.

Grace Clark tells of her adventures with grade-books and pay-rolls in the executive offices, and concludes: "I have spent part of the summer making highly diagrammatic representations of the structure of grass leaves in cross section, with the consoling thought that if my drawings are not valuable to science, they can probably be disposed of to some household publication for lace patterns."

George L. Clothier hasn't changed his political views. He is working here in botany and horticulture for the second degree. He "fills in" by working in the Botanical Department, teaching rhetorical classes, and taking lectures in political economy. "Something near twenty of our number are at present engaged in educational work either as students or teachers, while everyone, I believe, still keeps up his habits of a student. This fact is what gives me such faith in the future of each member of our class. There are worlds for us yet to conquer."

L. C. Criner's family cares made him tardy with his letter. He instructed in the Logan County Institute, and teaches again at Oakley. His latch-string is always out.

Harry Darnell writes from Gardner of a large experience since leaving College. He has passed two civil service examinations, farmed a little, taught more, and done other things as well.

W. H. Edelbute is up in the northwest corner of these United States. He lives on his own ranch near Harrison, Idaho. He will, after bringing up his trees, probably enjoy the happy lot of the horticulturist. He lives within a few miles of C. P. Hartley, across the line in Washington.

Elizabeth Edwards confesses to having delayed the Class Letter two months, and writes in such a hurry that she left out the things she should have said, and puts in those—but she is still teaching in the Randolph schools, and plans a visit to Wales, next summer "where the world is flat," and she can enjoy the novel experience of walking off the edge.

John Frost writes of shining for a time among other K. S. A. C. school teachers in Marshall County. He taught at Home City, and after school added to his muscle on the farm. He says he may be found at Emporia the coming year in search of more science.

Effie Gilstrap, unchanged in politics, occupation, and loyalty to Kansas, alma mater, and class, and yet unsmiled on by fortune, sends her greeting from Chandler, in the sometime to be State of Oklahoma.

Ava Hamill-Tillottson invites all to tea at Hill City, Kansas, where she is enjoying her home life.

J. N. Harner's letter is full of the breezes of the sunny south. Having graduated from the Kansas State Normal, and spent the summer of 1895 in teaching at an institute and seeing Colorado, he now occupies the former headquarters of Johnson and Grant near the battlefield of Corinth. He speaks of the young ladies of the South as more lovely than loving, which means, probably, that he is the victim of unrequited affection.

L. S. Harner at Junction City subscribes himself "in favor of sitting on a steel rail and eating off of a tin plate," and longs for another heart to beat as one with his.

C. P. Hartley from Pullman, Washington, tells of spending a year in the mountains of northern Idaho, where he celebrated July 4th, 1895, by killing a black bear. At the time of writing he is putting his knowledge of agriculture to practical use in the famous Palouse country, where sixty bushels of wheat to the acre are raised.

J. W. A. Hartley is teaching school at Milford, Kansas, and mentions his experience as a sewing machine agent, his income in the way of experience being so great he resigned his position, leaving the field open to some other fortune seeker. He closes with the wish to see all his classmates at the banquet next June.

J. Laird McDowell is a Cripple Creek miner and prospector. He relates some experiences as a collector among the miners of Cripple Creek, being in business with F. M. Jeffery, '81. He concludes by warning his classmates to keep away from Cripple Creek unless they have money to sink in a hole in the ground.

R. A. McIlvaine states that his life is a repetition of last year's, except that now he is receiving higher wages as a teacher at Carbondale, Kansas.

Kate Oldham-Sisson, after the close of College in Toronto, has put in the summer in a very enjoyable

way at Boston, Bar Harbor and other places. She speaks with delight of the pleasures of life by the sea, and no doubt it agrees with her, for she has gained two inches in height. If you want your communications to reach her, be sure to send them in care of the Ontario Veterinary College.

D. H. Otis is just the same Dan, and continues to thrive at his usual occupation of eating, sleeping, and working a little now and then when a bicycle is not on tap. He enjoys life by looking on the bright side of it, and hopes to see still more additions to his class by next year.

Ivan B. Parker received his dun for a class letter at Moreland, Kan., where he is practicing medicine at the rate of \$1,200 a year. Though the non-medical facts learned in his College course occupy now but a small convolution in his brain, he values highly the ability thus gained to know.

W. S. Pope writes from the State University, where he is completing his law course this year. He has gained honors in the foot ball field, but says it is an empty glory. It only develops a man's courage, and is too apt to make him physically a wreck. The young lawyer will hang out his shingle in Kansas City.

B. H. Pugh is probably engaged in some pursuit in which there is pleasure and profit, but he forgets to mention it. He writes from Oakland, a suburb of Topeka.

E. W. Reed, at Saint Clerc, says there is nothing new in his affairs; and his three-page letter proves it. R. S. Reed calls Elmdale home. His good opinion of his Alma Mater as compared with other schools has not changed.

A. D. Rice has found new health in Colorado. He teaches at Westcliffe, 8000 feet above the sea. He plans to teach in Colorado for a year or two longer before taking special work in history at an eastern college.

F. C. Sears writes of pleasant work at the College, makes a report as "spade committee," in which he hopes to recover the spade from its bed in the Blue River, and hopes to see everybody at the banquet in June.

Birdie Secret, clerks in her father's store at Randolph. She, too, wants every member of the Class to meet at College on Commencement.

May Secret helps with the housekeeping, and for recreation she reads and studies. The year has been a pleasant one on Fancy Creek.

Ruth Stokes gives something of her experience in the College kitchen. She wants a Class reunion in Paris during the exposition of 1900.

H. W. Stone writes from Sioux City, though his address will be Portland, Oregon, after this, where he takes charge of the Y. M. C. A. He is something of a traveler, but has yet to see a location as beautiful as that of his Alma Mater.

W. P. Tucker relates his experience in farming near Douglass. "I have farmed, and oh, the bliss of it! It has joys 'beyond compare.' There is much I would, but cannot, tell of the beauties of farming."

Alice Vail-Waugh's letter comes from Burlington, Vermont, stating that the climate is delightful, even with the thermometer 15° below zero.

R. L. Wallis writes his last letter. A page of the book is given to his obituary notice, prepared by Mr. Clothier.

Ora Wells finds the members of the Class she meets to be the same good-natured persons of '92. She is teaching at Irving, and though she enjoys the work, finds it not all sunshine.

D. F. Wickman is in the general offices of the Santa Fe Railway at Topeka. He has promised to be at the reunion.

George Wildin is at Raton, New Mexico, enjoying life in his own way—a very good way, too.

C. E. Yeoman likes to be Clerk of the District Court at LaCrosse, Kansas.

Aside from the letters, the booklet contains a part of the production given at the Class Day exercises, consisting of the Class Poem, by F. C. Sears; 'Toast to the Ladies of '92, by J. W. A. Hartley; Response to the Toast, by Ora Wells; and the Ivy Sonnet, by Alice Vail-Waugh.

Manhattan Horticultural Society, 1896.

The yearly program of the Manhattan Horticultural Society, of which Assistant Horticulturist Sears is President, has just been printed and distributed. The fact that twenty of the twenty-seven names on the program are those of College people is sufficient reason for reproducing it in these columns:

MARCH 19—AT HORTICULTURAL HALL
The Work of the Horticultural Society and Its Value
S. D. Moses

Arbor Day L. S. Fry

APRIL 16—AT JONATHAN DAVIES'
Some Methods of Controlling Our Insect Enemies F. A. Marlatt

Farming in Wales vs. Farming in America Jonathan Davies

The Markets of London and Paris Mrs. Kedzie

MAY 21—AT S. D. MOSES'
Fruit Raising in Florida A. S. Hitchcock

Wild Fruits of Kansas Worthy of Cultivation T. W. Morse

The Value of Experience Sam Kimble

JUNE 18—AT L. R. ELLIOTT'S
What to Plant on a Town Lot J. T. Willard

Onion Culture Prof. Lee

GERTRUDE STONE.

DAN FRANK WAUGH.

What to Plant on a Town Lot J. T. Willard

Onion Culture Prof. Lee

A Glance at Horticulture in Europe	Pres. Fairchild
JULY 16—AT STEPHEN BARNE'S	
Pollination	J. B. S. Norton
Fruit Tree Planting in Southern Missouri	F. C. Burtis
Spraying	I. Jones
AUGUST 20—AT W. MARLATT'S	
Mistakes in Horticulture	W. J. Griffing
Th Law of Natural Selection as Exemplified in the Struggle Between Native and Introduced Plants in Kansas	G. L. Clothier
Strawberry Short Cake	Ed. Secret
SEPTEMBER 17—AT JUDGE HARPER'S	
Propagation of Plants for Greenhouse and Garden	Wm. Baxer
Beneficial Insects	Bertha Kimball
Some Desirable Improvements in the City of Manhattan	J. D. Walters
OCTOBER 15—AT WM. KNIFE'S	
Forest Tree Culture in Kansas	S. C. Mason
The Best Ornamental Shrubs	E. A. Popeno
NOVEMBER 19—AT HORTICULTURAL HALL	
Soil Moisture	G. H. Failor
The Ozark Region as a Fruit Country	C. C. Georgeson
The Importance of Details	Mrs. Sam Kimble
DECEMBER 17—AT HORTICULTURAL HALL	
Election of Officers	C. W. Kimball
My Experience in Fruit Raising	W. Marlatt
Orchard Fruits in the Future	

COLLEGE ORGANIZATIONS.

Student Editors.—May Bowen, J. B. S. Norton, John Poole.
Alpha Beta Society.—President, A. C. Peck; Vice-President, Grace Secret; Recording Secretary, E. A. Powell; Corresponding Secretary, Etta Ridenour; Treasurer, Guy Hulett; Critic, Inez Palmer; Marshal, W. H. Ellis; Board of Directors, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, E. H. Webster; Vice-President, E. G. Gibson; Recording Secretary, W. J. Rhodes; Corresponding Secretary, J. B. Norton; Treasurer, E. E. Butterfield; Critic, T. M. Robertson; Marshal, H. L. V. Uhl; Board of Directors, F. H. Myer, J. E. Trembley, C. H. Stokely, J. H. Bower, T. W. Allison.

Hamilton Society.—President, John Poole; Vice-President, G. C. Hall; Recording Secretary, A. L. Frowe; Corresponding Secretary, L. A. Fitz; Treasurer, G. G. Menke; Critic, C. F. Doane; Marshal, W. J. Goode; Board of Directors, J. W. Holland, S. J. Adams, A. W. Staver, C. E. Copeland, A. J. Pottorff.

Ionian Society.—President, Clara Newell; Vice-President, Gertrude Lyman; Recording Secretary, Minnie Spohr; Corresponding Secretary, Olive Long; Treasurer, Mary Norton; Critic, Miriam Swingle; Marshal, Hattie Goode; Board of Directors, Minnie Pincomb, Ellen Norton, Gertrude Lyman.

February 15th.

The spacious and comfortable Hamilton room was filled beyond its seating capacity last Saturday evening, notwithstanding the fact that many were attracted down town by the several entertainments. Having somewhat relieved their brains of the extra load during mid-term examination, all were fully prepared to enjoy a good session. After devotion and reading of minutes, C. E. Basley was elected a member. F. O. Woestemeyer read a very interesting essay, describing a Fourth of July picnic at which one of the most deplorable things happened—it rained. L. W. Wolfe discussed the justness and unjustice of certain restraints imposed upon the Societies by those in authority. C. E. Mansfield discussed the many good qualities of "Ensilage," and the advantages of a "Silo," beginning with the history of its origin, and then plans of several silos and the cost of construction. He also used several extracts showing the high value of ensilage as a rough feed. B. H. Shultz's reading of Peck's comical selection, "The Royal Bumper Degree," was indeed a treat in the humorous line. P. F. Fleming's declamation entitled, "No Success Without Labor," contained many good thoughts that were well worth remembering. A short debate on the question, "Resolved, that there should be inserted in the First year course, a study of the rules, regulations, and privileges of the library," was followed by critics' report, and the observance of several timely criticisms given will be a benefit to all. Under "Propositions for Membership" the name of H. McCaslin was added to our list. A trial, which owing to a division of opinion, brought on considerable discussion, occupied the Society until adjournment at 10:30 o'clock. L. A. F.

February 14th.

Promptly at 2:30 the Ionians were called to order by Pres. Newell. The Society joined in singing. Gertrude Rhodes presiding at the piano. Maggie Correll their lead in prayer. Under initiation of members, Anna Pfuetze and Stella Stewart were initiated. The program had for its general topic "Valentine Day," and was opened by Kate Threlkeld with an excellent essay having for its subject "The Origin of St. Valentine's Day." Emelie Pfuetze then entertained the Society with a vocal solo, entitled "Paradise Alley." An original story, "Aunt Salley's Valentine," was read by Gertrude Rhodes. The Oracle was presented by its editor, Ellen Norton. It was a typical Valentine number, having for its motto:

It is Valentine's day,
And lovers, like birds,
Should sing and be gay.

Some of the articles, besides a well-written editorial were: "A Sketch of the First-year organization from Saturday to Monday," "An Incident," "A Record of our College Days," and many others. Rena Helder then favored the Society with a vocal solo. The Parliamentary Quiz, conducted by Jessie Bayless, was an unusually interesting and profitable one. The program was closed by a well-rendered piano solo, by Miss Frances Hacker. Some time was then spent in the regular order of business. After report of Critic, assignment of duties, and roll call with quotations, the Society adjourned. O. A. L.

February, 14th.

The Alpha Beta Society was called to order by President Peck. Program opened by congregational singing, "Cast thy burden on the Lord." Miss Cottrell led in devotion. A male quartette, Messrs. Clothier, Spalding, Hulett, and Smith rendered, in a most interesting manner, a vocal piece, entitled, "Father in Heaven." T. L. Jones accompanying on the piano. Miss Tannehill was initiated. Mr. Boyle delivered a very interesting declamation, "Old Brandy's Goat." Miss Minerva Blachly in a recitation, told the Society of her experience as an author. The discussion of the question, "Should the weekly holiday be changed from Saturday to Monday?" was

opened by C. W. Shull. We have a holiday from now until Monday, how shall we spend it. Quite likely we shall have a good time from Friday evening till Saturday evening and get down to study Sunday. If we have our vacation on Monday, it will do away with this Sunday studying. As it is, students, as a general thing, have poor lessons on Monday. If his change was made they could get their lessons on Monday, and have a good start for the week. Miss Inez Palmer, in defense of the negative, claimed that many of the students had to work on Saturday, to pay their way through College, where if the vacation came on Monday they could not get the work to do. To those students who are keeping house, it would make no difference so far as lessons are concerned, as they would have to do the work on Monday that they would otherwise do on Saturday. It would also necessitate a change in our Society work. After a general discussion by the Society, a vote was taken showing 36 to 11 in favor of retaining our Saturday vacation. A violin duet by Messrs. Pottorff and Rogler was one of the most pleasant features of the program. They responded to a hearty encore. The Gleaner was presented by Miss Gertrude Havens. After recess, Miss Adelaide Wilder entertained the Society with a piano solo. In a symposium, Mr. Chandler spoke of the "Facilities for Education" at the College, and Mr. Dye gave a very interesting talk on his "First impression of the Faculty." After a short business session, the Society adjourned. M. E. R.

February 15th.
 The room was filled when President Webster called the Webster Society to order at 7:30. Roll call was followed with prayer by F. E. Uhl. After the reading of the minutes, the following persons were initiated: Geo. Doll, W. B. Henson, and F. Shelton. The program was opened by debate upon the following question, "Resolved, that hope has more influence over the human mind than fear." J. M. Harvey and L. E. Potter, in arguing for the affirmative, brought out many strong points. Hope is a constant emotion and always is present in man's mind.

"Hope springs eternal from the human breast;
Man never is, but always shall be, blest."

Hope is the principal part of religion. If the hope of conquest and victory was not stronger than that of fear, there would be no wars, "scraps," etc. It is the hope of good work that inspires us in our Society, rather than fear of punishment, this is also true of all the world. Hope inspired the great men of the past and present. Without hope, man would not advance in civilization. One of the principal elements of ambition is hope. J. A. Lovette and F. E. Uhl upheld the negative side of the question. Fear shows that it influences man more than hope by its effect. Under the influence of fear, some men will drop dead, others will stand as if paralyzed, while others will be strengthened to extraordinary effort. Hope never causes such visible signs. Fear of failure often leads people on to success. An enemy must be feared before he can be driven back or subdued. The fear of the future is a very potent factor in man's life and religion. Fear of punishment or death are restraining influences. The Society decided for the negative. J. H. Bower gave a patriotic declamation on the Boston massacre. This was followed by a "darky" dialect song by J. H. Bower, S. B. Newell, and W. Spangler, who responded to an encore. Harry Williams furnished all the recent state and local news of any importance. An excellent and well edited number of the Reporter was presented by J. E. Trembley. His motto was:

If you get an ugly valentine,
Don't get mad and fly the track;
But if e're another year rolls round,
Just seal it up and send it back.

A few of the best pieces were "A Great Discovery," "A Bit of My Early History," "His First Attempt," "A New World," and "The Letter." After recess, D. Akin entertained the Society with a violin solo. W. N. Ireland gave an excellent discussion on the "Labor Question in the United States. The Society spent the remainder of the evening in a profitable business session, both from a practical and financial point of view, as it increased the surplus in the Society treasury to some extent. J. B. N.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

Professors Franklin and Nichols of the State University are publishing a new text book on Physic.

Richard R. Price of Hutchinson has been awarded the prize offered by Eastern men for the best essay on Tennyson's "Princess." There were many competitors.

A student of Cambell University at Holton opened a bank account, and in a short time overdraw his deposit. The bank informed him of this, when he responded by writing out a check on the bank for the difference!

The Midland of Midland College at Atchison publishes a very fine half-tone engraving of Prof. F. D. Altman, President of the Western Theological Seminary, to be located in the near future on a part of the campus of Midland.

College Life of Emporia University ought to buy an almanac, or subscribe for a daily paper, or pay the board bill every Saturday, or do something else by which it may keep count of time. The dates of its issues are certainly not all right.

Haskell Institute at Lawrence has been handsomely treated in the Indian appropriation bill. Haskell, for the first time, will be able to do as Carlyle has always done—use its funds for the best interests of the institution without restriction as to specific funds. Last year the school was obliged to turn back into the treasury nearly \$15,000 because it was appropriated specifically, and could not be used for any other

purpose. At the same time other branches of the Haskell service suffered for lack of funds. The change in the manner of appropriation is a grand innovation which will be fully appreciated. The institution is allowed for the education of 500 pupils at the rate of \$167 each per year; for transportation of pupils and improvements, \$500; for water supply, \$5,000. In all Haskell gets \$90,500.

President Coleman of Ottawa University is suffering from acute mental aberration, caused by complicated physical ailments and overwork. His condition the last two days indicates slight improvement. The doctor's physician cannot at the present stage of his patient's malady predict its outcome.

The Civil Service Commission will hold an examination at Kansas City, Mo., on the 10th of March for meat inspectors, taggers, and stock examiners. They report that there are many vacancies to fill, and that available candidates are hard to find. It is intended to make graduates of State veterinary colleges eligible for meat inspectors, without examination.

We are in receipt of Vol. 1, No. 2, of the *School and College Journal* of Bethel College, at Newton. Bethel is the high school of the Mennonites of Kansas, who here have built up a large institution with six teachers and over a hundred and fifty students. About two-thirds of the monthly is printed in German and one-third in English. Its appearance is equal to the neatest and best. Price, 25 cents a year.

Prof. Carruth of the State University has published a translation from the German, with notes, of Victor Von Scheffel's famous "Eckhart." The book has, in its original language, seen over four hundred editions in twenty-five years, and will undoubtedly find thousands of American readers now, since it has been translated by an expert linguist. We hope Prof. Carruth will translate that other masterpiece of Scheffel "Der Trompeter Von Saecklinger," also.

DATES AND APPOINTMENTS AT FARMERS' INSTITUTES.

Concordia, Cloud Co., February 27 and 28; Prof. Georgeson, Prof. Will. Garden City, Finney Co., February 26, 27, and 28; Pres. Fairchild.

Newton, Harvey Co., March 5 and 6; Prof. Walters, F. C. Burtis.

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THE COTTONWOOD BORER.

BY PROF. E. A. POPENOE.

THE insect best deserving the distinction of this name, whether by reason of its size and striking characters as an insect or by reason of its abundance and destructiveness, is the large cerambycid beetle known to the coleopterist as *Plectrodera scalator*. By its structural characters, this beetle is not allied closely to the pest of the apple orchard, to the black locust borer, or to the other troublesome species with which we are most acquainted. It belongs to a tribe whose members are well known in the pine forests, where their destructive work has been recognized since the time of the earliest entomological records. The species with which we have to do is not known to attack trees outside of the cottonwood family, but it seems impartial in its attention to the common poplars and willows. I have found the females laying their eggs in the trees of the common native cottonwood, the Carolina poplar, the Siberian poplars, the Lombardy poplars, the Russian *Populus splendens*, as well as of several species of willows. The beetle begins to appear in the middle of July, and remains for five or six weeks (as late as August 25th). It is generally seen walking slowly and somewhat sluggishly over the tree when not in pursuit of its mate or feeding on the bark of the younger twigs, or resting on the leaves. It is diurnal, preferring the hottest part of the day, and going into concealment among the branches toward evening. As the sun warms the beetles up, they may be seen flying slowly though strongly from tree to tree, the vibrations of their heavy wings producing a deep hum like that of the bumblebee. Their courtship is effected on the trunk and large branches, the males chasing the females with great ardor over the bark. The males are recognized by their larger antennæ and more slender bodies, as well as by a less bluntly tipped abdomen. After pairing, the female, still followed by the male, makes her way to the base of the trunk, where she begins the work preparatory to depositing an egg. The method of this preparation and the after work is unique and interesting. Standing on the bark, with head downward and antennæ thrown back out of the way, she uses her stout head and jaws to thrust away the soil about the collar of the tree, pushing and rooting after the fashion of a hog until an opening down along the bark is made, sometimes to the depth of an inch, but usually about half that deep. Then, with her jaws she gnaws at the bark until the rough exterior is removed more or less, the surface left being usually that of the lighter bark just below the dark outer portion. Now reversing her position, she thrusts the broad, flat tip of the abdomen into the cavity, feeling her way until she finds the fresh surface of the gnawed spot, where she deposits a nearly globular, greenish-white egg, about one-tenth of an inch in diameter. Then, with a kneading motion of the tip of the abdomen, a greenish, frothy fluid is exuded, and with this the earth about is mixed into a mortar covering and hiding the egg completely. The insect then draws more earth about the egg, covering it well from view, and leaves it to hatch. I have observed that the several eggs of a single female are not deposited in succession, but she may meet her mate at least for a second time after having deposited an egg. The eggs hatch in a few days, and the young larva begins its destructive work. There may be eight or ten of these young larva at the collar of a six-inch tree, and they work in the inner bark at first, going deeper in, as well as farther down, as they increase in size. In form, they are like the round-headed borers generally, like the hickory borers of cordwood, but a little heavier in general form. In color, they are the yellowish white of most of the borers of this family.

It is evident from the distance at which the beetles sometimes emerge that they may travel two or three feet from the place where the egg was deposited. Unlike some other borers, the larva does not always return to the collar of the tree to transform. We have noticed openings in the soil through which the beetle has emerged from the roots below at the distance of a pace from the trunk. It seems likely from the great variation in size of different larva taken from the tree at the same time that the species may require at least three years to complete its growth within the tree. This is also rendered more probable by the periodically greater abundance of the beetle in summer. The adult is a broad, square-shouldered cerambycid, the ground-color of the entire body being a polished black, this color covered after a more

or less regular pattern with whitish scales, giving the insect the slatted or checkered appearance by which its specific name is evidently suggested.

GIRLS ON THE FARM.

BY GERTRUDE J. HAVENS, '96.

THE constant talk about "How to keep the boys on the farm," "Why do boys leave the farm?" and "How shall we make the farm attractive for the boys?" would make us think that girls were not a part of the farmer's family. At farmers' institutes, boys are talked about and thought to be almost as important as the fine horses and cattle, but the girls too often are not even thought of, or, if they are, and anybody dare to speak of them, there is too much the feeling of one who said, "I venture to give a few words in your behalf," or another, who said, in a paper written as late as 1886, that he was entirely on untried ground, and not realizing his great opportunity, made the apology that the subject was given him.

Why is not the health and happiness of the girls on the farm made as important as that of the boys? Because too many of our farmers have not entirely passed the barbarous age when women were mere slaves. Almost any of them will be shocked at that assertion, and disclaim ever whipping her or using her as a pack horse. But there are words that sting worse than whip-cords, and neglect is often more cruel than over-work.

The position of the daughter on the farm, from the time she is old enough to care for the next child younger until she leaves her father's home, too often broken in health and spirits, is that usually given the small boy a "necessary nuisance." Necessary, because the farm work could not go on smoothly if there was no one to see that the meals were always on time, and coats and trousers always ready for use; a nuisance, because she would sometimes like a new dress, and a half day's rest. The fathers and brothers are not always to blame for this, too many of our mothers and daughters under-rate their own position, and really think they are not of much consequence because what they do cannot be counted in dollars and cents. Education of both boys and girls is the only thing that will improve this condition. The girls should be taught to be the confidential advisors of the boys, and the boys taught that their sisters are capable of holding that position.

The work of the farmer's daughter is the most healthful occupation, if judgment is used; but too often the day begins at four in the morning and closes at eleven at night, each day having the same weary, weary round. The inspiration that she is supposed to get from the much sung about work of the milkmaid, oozes out in the barn-yard slush, and she is only to glad to be in the house again, failing entirely to see the health and spirits to be gained from "work in the open air." When she works in the flower garden, it is when there is nothing else to do, and usually is performed with aching back, and nerves too tired to see beauty in anything. She does the work because she feels, that, to make the home attractive, is a duty she owes her brothers. Two hours of every pleasant day should be spent out doors, and any mother or daughter who neglects this is failing in her duty to herself, her family, and her country. If the work of the house is too much to allow her time and strength for this, help should be hired. She has as good right to it as her brothers and husband. Any farmer who saves the expense of house help and afterwards spends twice as much on doctor bills is not a good financier.

The education of the farmer's daughters should be one of the agitated questions of the day. She is usually left to grow like the wild rose, and early becomes a victim to her ignorance. If obliged to leave home, she learns too often, at expense of health and character, what she should have learned from her own mother, or if she stays in her father's home, or a home of her own, early loss of strength in body and mind is the result. The majority of women in the insane asylum are farmers' wives, and we can safely assert that this is because they have never been taught that "The life is more than meat, and the body than raiment." The beauties in everything about her can give no diversion, because she is blind. Her eyes have not been touched and opened by the finger of knowledge.

There are some who oppose a college education for a farmer's daughter, saying it gives her notions above her place and makes her dissatisfied with farm life. Any schooling which does this is not an education.

There is a cause for this, but too often it is the fault of the home folks. After learning the importance of caring for her own health and growth of mind, is it any wonder that she dreads to return to where the rest she and her mother need will be sneered at as a lazy notion she learned at college? Or, if she wishes a particular grouping of a clump of trees in the yard, that, to her eye, trained to see beauty in harmony of color and shape, would add much to the attractiveness of the home, gets for an answer, "O, that is one of your flighty college notions, pretty no doubt, but farmers haven't time to attend to such little things."

But this is not always so; the trouble is often with the schooling. To the literature, science, and art that will give her useful hints for home decorations indoors and out, should be added the knowledge that will make her able to talk intelligently with her brothers about the "rotation of crops," and the grains that pay the best, and have some idea of how many bushels make an average yield. There is no class that need an education so much as farmer's wives and daughters. Isolated from libraries, they must be able to choose the very best books for the few they can afford in the family. The district school, usually with almost no course of study, must be supplemented by a well-chosen, interesting course of reading at home. Often at a distance from a competent physician, a knowledge of the laws of health and the treatment of the common diseases is a necessity.

The means to get this education is often not to be obtained, perhaps. But more often the father thinks he cannot afford it. And a woman; after all, can be only what man will give her a chance to be. If she has not the means to get an education, she can but do her best, and God, who made man to be woman's protector, will hold him responsible for the result.

"CONTENT" OPPOSED TO PROGRESS.

BY W. H. ELLIS, '99.

TO be content to follow in the foot-steps of our fathers; to accept without question the things that they accepted; to live out our days in the old ruts, traveled and worn deep by the footsteps of those who have gone before; to make no effort to lift our feet to higher paths in the intellectual world, is to fail utterly in the objects and purposes of life.

We come into the world with nothing, we can take nothing out of it; but to leave nothing when we go, is to have lived and died for nothing.

If the departed millions had always been content to think as their fathers thought, and to accept the material things, without ambition to improve them, the world would be still sunk in the darkest ignorance and barbarism.

We owe all our present civilization, with its comforts and conveniences, to ambition and desire to improve. Why, then, should we halt now and exclaim, "the world is in its dotage." To the old and infirm, the sluggard, and those who have no object in life, only, does the world seem old.

To the vigorous and ambitious mind, the active worker, who desires to add to and build up the present status of society, the world seems young, scarcely in its maturity.

We seem to have only reached the threshold of real progress. Scientific investigation, advanced religious thought, mechanical invention, deeper research into the problems and mysteries of nature, have revealed to us many wonderful facts unknown to our forefathers, and there remains much to be discovered and utilized for the comfort of mankind.

How are these secrets to be discovered? If we fold our arms and are "content," we go back. To improve on the ideas and methods of the past generation, is a duty that devolves upon us; inherited, we might say, from our fathers. As they improved on the existing things of the time in which they lived, so it is an imperative duty that we do our share in the general advancement. If we fail, this generation will mark the epoch of retrogression; and posterity would owe the ultimate return to barbarism to us. This must not be; our pride dictates that we must keep up the good work. Each and every one of us must do his share, be it never so small. We appeal, therefore, to the pride of every member of the rising generation to study and improve; to develop the mind by intellectual cultivation; the rest will surely follow.

The Retentiveness of Soils.

Prof. Crosby, of Michigan, has recently conducted some experiments to determine, among other things, the degree of retentiveness of moisture that exists in various soils. Sand, clay, loam, and muck were used as the representative soils, and after being thoroughly kiln-dried, and equal amounts of water being added

ed to equal amounts of the several soils, the vessels containing the soils were exposed to the August heat from the 18th to the 26th of the month, inclusive. At the end of ninety-seven hours the sand was dry. At the end of 197 hours the clay had practically lost all its moisture—that is, 99.2 per cent. of it. The loam had lost 91.4, and the muck 62.5 per cent. In a general way, therefore, it will be seen that sand dries out a little more than twice as fast as clay; and that loam retains its moisture longer than clay, and that muck holds moisture still longer than loam. While these general conclusions are not new, exact experiments with the four kinds of soils under precisely similar conditions showing their relative retentiveness do not exist so far as we remember.—*The Homestead*.

Trees Exponents of Soils.

Soils may be indicated quite accurately by the trees that grow naturally upon them, since the native growth is the one that has appeared there after centuries of contest for the "survival of the fittest." Other trees would grow there if planted, tended, and protected, but the native tree is the proprietor by natural selection.

The common beech flourishes on a soil fairly moist and naturally clayey. Pines and chestnuts choose a lighter and often a sandy soil. Oak, hickory, and poplar choose naturally a soil that, when clear, is very appropriate for wheat. Soils that produce beach and maple will also produce corn, potatoes and barley. White oak chooses a moderately rich soil. Post oak grows well on a soil that is dry and gravelly. With it are found also Spanish oak, black oak, scarlet oak, and dogwood.

Black walnut requires rich, fairly dry soil, such soil as will produce also honey locust, red mulberry, shell-bark hickory, black sugar maple, hackberry and red elm.

White maple seems to grow best on the banks of streams where pure waters flow over beds of gravel.

There seems to be a sure index of the character of the soil in the manner of the growth of trees. It will be noticed that on a hard clay soil the trees are of slow growth, irregular, and extremely uneven in branches. Each year's growth is very small. Frequently even the leaves are dwarfed. Yet in time trees on such soil attain an immense development. We instance scrub oak. The development of its branches seems to keep pace with the development of the roots in the soil. Where the soil is rich and soft the roots force their way easily, and the growth of the tree above the ground is smooth and rapid. The limbs are long between joints and everything be speaks a luxuriant existence.—*Exchange*.

The Small Farm.

A farmer's work should not be that of drudgery or constant toiling from morning to night. The small farmer can easily attend to his twenty acres without becoming a slave, and reap the reward of his labor without unnecessary drudging. The small farm, properly handled, brings four times the return, in proportion to area, of large acreage, if improperly handled. Every man who is hungering for more land should stop in his greedy career and study the situation.

The small farm offers a permanent home, constant income, and perfect happiness, without any great losses or big anxiety.

The small farm offers better inducements for engaging in diversified cropping. When a man settles down upon a small area, he realizes that he must make two blades of grass grow where but one has grown before. Every avenue of ingenuity must be brought into requisition to make the farm pay. A few acres are devoted to orchards, the garden is not neglected, pasture must be accounted for, and the acreage under cereal cultivation must be kept up. The small farmer is brought into direct communication with his book-keeper, and knows exactly whether or not a particular crop pays. The man with few acres cannot afford to enter into any great speculation, purchase expensive machinery, and sign large notes.

On a small farm, where there is but a limited quantity of stock to care for, the better plan, as a rule, is to feed everything in stables or sheds. The needs of the stock can be more closely noted and the waste kept at a minimum, and a better opportunity is afforded for saving and applying the manure. Any extra labor this may call for will be more than repaid.—*The Farmers' Guide and Home Companion*.

Good Roads.

The office of Road Inquiry of the Department of Agriculture has completed an interesting investigation relating to the common of the United States. Returns have been received from about 1,200 counties, showing the average haul from farms to markets or shipping points to be twelve miles, the average weight of load for two horses 2,022 pounds, the average cost per ton per mile 25 cents, and \$3 for the entire haul. Estimating the farm products at 219,894,227 tons in weight and making estimates on other articles carried over the public roads, it is calculated that the aggregate expense of this transportation in the United States is \$946,414,665 per annum. Reports have been asked for the United States Consuls abroad of the expense of hauling where the roads are good so as to render possible a calculation which will show how much of this vast outlay is due to bad roads. The estimate is ventured, however, upon information in the office of the counting the loss of time in reaching markets, the enforced idleness and wear and tear to the live stock and hauling machinery caused by poor roads, that two-thirds of the cost might be saved by an improvement of the roads.—*Colman's Rural World*.

FARM NOTES FROM VARIOUS SOURCES.

Interest the boys in improved stock. Give them a pedigree colt, calf, or pig, and they will show you how to make their farm stock pay. It will keep them on the farm, too.—*Western Agriculturalist*.

While the present outlook for horses is not very encouraging to the breeder, there is bound to come a time, and that not in the very distant future, when the supply will have adjusted itself to the demand and the business will again be put upon a profitable basis. In the meantime cull out all inferior animals and breed for some special purpose.—*Agricultural Epitomist*.

In footing up your profits from the farm the past year, put down a good big sum for satisfaction and enjoyment of life, especially if you can't balance accounts in any other way. We caught on to this several years since when we embarked in the newspaper business. The farmer, with a good living always in sight, ought to have little or no difficulty in adjusting this matter, when less fortunate mortals can squeeze out a satisfactory showing.—*Agricultural Epitomist*.

The multiplication of untechnical, familiar books about flowers, whether of the garden, field, or forest, is a good sign. It shows that more and more people are growing interested in the subject, and that those who have not had an opportunity to take a course in botany, or whose time or eyes or patience are not sufficient to enable them to plod through the mass of minute details involved in the technical identifications of the manuals, begin to know what they are, and what their relationships.—*Popular Science Monthly*.

Do you ever find a herd of cows yielding 300 pounds of butter apiece in the hands of one of these farmers who sneer at experiment stations, farmers' institutes, dairy schools, dairy conventions, and dairy papers and books? Of course not. As the man thinketh, so is he. It takes faith in better things to do better than we are doing. We must have faith. These skeptical, disbelieving farmers, who sneer at every element of progress, are the men who make no progress. They are the "hand to mouth" men.—*Hoard's Dairyman*.

It is an almost universal mistake to think that trees require no water, or but little, in winter. There is evaporation, and a great deal of it, all through the winter, and if moisture is not close at hand, the tree will die. Keeping this in mind, it will be seen why there is great benefit in mulching newly planted trees. It keeps the frost from the roots, if placed on the ground thick enough, which it should be, and in this way it is easier for the root to sustain the calls the tree makes for moisture to meet the loss by evaporation.—*New England Farmer*.

Taking the whole country over, we believe we are safe in saying that not more than one-fourth of the farmers are producing small fruits in sufficient quantity to supply the demands of their families. It seems strange indeed that a luxury so luscious and so easily and cheaply produced on the farm should not be looked after and supplied more abundantly and generally than it is. When you turn over that "new leaf," Mr. Average Farmer, resolve to begin the cultivation of a small fruit garden the very first thing you do in early spring, and then don't neglect it.—*The Agricultural Epitomist*.

It takes a good deal to make a good home. It needs something even besides father and mother, and an open fire, and the cat on the hearth. The first element in the home is the house itself, which needs to be distinctly different from any other house in sight. Then there needs to be some land around a house before it can be "real homey." It gives playroom for the eyes as well as the feet. A wide range of solemn woods will do more for a child in a week than yellow bricks and dirty paving stones will do for him in a year, or ever do for him.—*Dr. C. H. Parkhurst*.

The season of discussing good roads is at hand. All sorts of material will be prepared, and all sorts of advanced methods devised—in the mind—for preparing the roads, but when next season comes, the subject will be lost sight of in the multiplication of other affairs, and good roads will not be thought of again until winter comes. The man who is a good husker in wheat harvest, and a good binder in corn harvest, is a near relative to good roads people who are always "mending their ways" in the winter time. Better systems for the management of roads, however, are developing, and the matter will work out in time. The road grader affords a means of doing a great deal of work in a very short time. The wheel scraper is an improvement over the old-fashioned one. The roads are getting better, are receiving better attention, and it is only a question of time until they will be all that we can fairly desire.—*Live Stock Indicator*.

Farmers make a mistake in not having more and better gardens. The farm work must be attended to, and the garden must wait until a convenient time; consequently they may have a few of the more common vegetables, that is if "the women folks" see that the seeds are planted and the garden tended. I know of farmers who have to buy their vegetables for harvest, while scarcely any who have gardens grow anything but the staples, cabbage, potatoes, etc. How they would enjoy cauliflower, asparagus, pieplant, etc., and a succession of others that they plant only once in a season. Of course there are a few farmers who have reasonably good gardens, but they are the exception. Then there are those who occasionally have more of one thing, such as cabbage or onions, than they can use, and instead of taking the surplus along to town when it is necessary to go on other business anyway, they let it go to waste. If the farmer cannot leave his other work to make garden, it will pay him to hire help a few days. He could raise enough more than the family require, to pay for the work hired done, and would thoroughly enjoy the many extra good things.—*Correspondent Practical Farmer*.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.

1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Mrs. McCrea is in Dubuque, Iowa, where she was called a week ago by the death of her mother from paralysis.

Mrs. Winchip entertained a party of lady friends Saturday afternoon in honor of her aunts, Mrs. Otis, of Vermont.

President Fairchild spends three days in Garden City this week, aiding in a farmers' institute, visiting Topeka enroute.

At the January meeting of the State Board of Agriculture, Dr. Mayo was appointed honorary veterinarian to the Board.

Mr. E. Bartholomew, of Rooks County, has donated to the College Herbarium two boxes of Rooks County plants. They are neatly prepared, and will form a valuable addition to the Kansas Herbarium.

What peculiar people we are. We who make the journey so often between College and town take all the "short cuts," and, having traveled them for a few years, are indignant that the lot owner encloses his property with a fence!

Mr. Darnell, representing E. A. Wright, the Philadelphia engraver, called at the College on Wednesday, and took an order from the Fourth-year Class for 800 Class Day programs. The Class Committee, aided by Mr. Darnell's suggestions, chose wisely, the design selected being most artistic.

President Fairchild and Mrs. Kedzie have recently received a number of applications from graduates of the National Training School of Cookery, London, England, who want places as teachers in this country. This school was one of the chief points of interest to the visitors in their journey last summer, and Mrs. Kedzie spent several days there.

Misses Maude Gardiner, Jeannetta Zimmerman, and Lorena Clemons received the German class and a few other favored ones in Mrs. Kedzie's office last Tuesday. Refreshments of an appropriate and agreeable nature were served, and, though the guests carried on their small talk in a mixture of two languages, all departed pleased and satisfied.

Accessions to the Library for the week ending February 26th: Keynotes, Griffin; Report of Secretary of the Navy, 1893; Report of Postmaster General Message of the President; and Foreign Relations of the United States, 1894; Report of the Secretary of the Interior, Vol. 1, 1893; Vol. 2, 1893, Indian Affairs Vol. 3, 1894; Report of the Secretary of War, Vol. 2 1893; Same, Engineer's, pt. 5.

The College chapel being too small to accommodate the crowds usually attending the annual exhibitions of the literary societies, it has been decided to limit the attendance at the Webster Annual of March 14th. Children under fourteen years of age will be excluded, and tickets for the seating capacity issued to those connected with the College and to as many of the public as possible. Due notice will be given as to where tickets may be obtained.

A runaway which narrowly escaped having serious results occurred near the College Tuesday. When Miss Grace Voiles and Miss Pearl Cunningham [First-year students] started out from College at 1:30 o'clock with a horse and cart belonging to J. G. Voiles, they noticed that one of the thills was broken. They tied it together as best they could, thinking it would last until they reached home. When at the corner near J. G. McKeen's place, the broken thill came apart, and the sharp point, sticking the horse's side, naturally frightened it, and it started to run. It jumped over a stone fence, upsetting the cart and throwing the girls out. Miss Voiles' foot was caught in the wheel, but she succeeded in extricating herself, and escaped with slight bruises, as did Miss Cunningham. The horse ran toward home, jumping another stone fence on the way and breaking the cart to pieces.—*Mercury*.

The Farmers' Institute held at Cherryvale last week was the second annual gathering of that body, and was quite a success in many ways. The meeting as a whole was characterized by the large attendance of ladies, and the active part taken by them in the program, as well as by the deep interest taken by all in the various papers and discussions. Many valuable and important papers were presented upon subjects related to the farm and home. Subsoiling, wheat raising, poultry raising, alfalfa, Kaffir corn, cotton, sorghum for feed, home economy, were discussed, among others. Without seeming to make invidious distinctions, the writer would especially commend a paper upon "The Common Schools," by the County Superintendent, Miss Anna Keller, as containing much of value, together with some good, wholesome thoughts for the farmers. Cherryvale is situated in a rich agricultural section, and is in the midst of the natural gas and oil region which promises so much for that portion of the State. The farmers

are live, wide-awake men, who believe in farming with brains. The College was represented by Prof. Mason, who presented a paper upon "Plant Propagation," and by Secy. Graham, who gave an evening lecture upon the subject "Work Wins."

GRADUATES AND FORMER STUDENTS.

H. W. Jones, '88, Principal of the Alma Schools, visits at College today.

Stella Kimball, '94, was sick last week, and her place in the Oak Grove school was filled by her mother.

The Class of '94 is making an effort to publish a class letter before Commencement, and with every prospect of success.

Bertha Bacheller, '88, attended the Dyche lecture last evening, and today visits the College for the first time in five weeks.

G. C. Wheeler, '95, made a brief call last week on his way to New York, where he gains a place upon a palace car line in New England.

Bertha Kimball, '90, has just painted a plaster of Paris orange that can be distinguished from the genuine only by the sense of touch.

Hortensia Harman, '95, was present at the marriage of her brother John at Riley, on Thursday, to Miss Sarah Evans. She visited College yesterday, and attended the Dyche lecture in the evening.

The names of three graduates appear on the program of the Riley County Teachers' Association at the Riley meeting, March 7th: S. N. Chaffee, '91, "The District School of the Future;" Stella Kimball, '94, "How Can I Interest My Pupils in Nature Study?" Hugo Halstead, '95, "Trials and Tribulations of a Youthful Pedagogue."

Sorghum Seed for Sale.

The Chemical Department has for sale improved sorghum seed of the several varieties which have proved to be the best in the past years' experiments. An account of these sorts of sorghum will be found in the bulletins of the Station. The principal kinds are Early Amber, Folger's Early, Medium Orange, Kansas Orange, Collier (undendebule), Colman (a cross of Orange and Amber), Denton (another cross). We have limited quantities of specially selected seed of most of the sorts. Address, G. H. FAILVER, Manhattan, Kansas.

The Opening Lecture on Money.

The lecture yesterday by Prof. Will was upon "Money," treating the subject historically from the Revolutionary War to the adoption of the Constitution. The war was carried on by the Continental Congress,—a body supported, not by law, but by public opinion. Even the Articles of Confederation did not increase the power of Congress to any marked degree; for the States were not only jealous of each other, but also of a strong central government.

One of the requisite powers of a government is that of taxation. This Congress did not have, at least, though it might levy, it could not collect taxes. For this reason, Congress resorted to all kinds of devices for raising money and supplies. The States were called upon again and again for both, responding but feebly; money was borrowed at home and abroad; the lottery was tried; confiscation was resorted to; aid was also given by private contributions; and, most important of all, the Government issued paper money, continuing in the practice without redemption until, in four years, they had issued two hundred million dollars. The States, as well as private individuals, had also issued some, which helped to swell the supply. This paper money soon began to depreciate, and that for various reasons. One was because of the counterfeit money put into circulation by private gangs and by the English Government, which hoped to win the war by undermining the money system. Other causes of the depreciation were speculation in paper money, the failure of individual States to redeem their quotas, the high prices which army officers were stimulated to pay since they received commissions proportioned to the amounts of their expenditures. Lack of confidence in the willingness and ability of the Government to redeem its paper, was another potent cause.

In 1781, Congress passed the 40 to 1 act, acknowledging a depreciation from 40 to 1. As the value of money decreased, prices went up, and this condition Congress attempted to remedy by limiting prices—an attempt which has proved unsuccessful wherever tried on a large scale. As a part of the plan, Congress recommended and the States enacted the Legal Tender Acts, requiring the creditor to accept Continental money for his claim, or go unpaid. These acts favored the debtor at the expense of the creditor, for the reason that they allowed the payment of debts in a cheap money. Paper money is declared by Bolles (quoting Ramsay) to have been "the poor man's friend;" for it did not depreciate in his hands, and he could get more of it as its value fell.

After the war was over, the question arose, what shall be done with the paper money? To which there were three answers. First, nothing; for by its depreciation Congress was enabled to tax indirectly, and thus carry on the war. The debt should, therefore, be considered paid. But a large contingent held that the promise to pay should not be broken, and this view prevailed. To whom, then, shall the redemption money be paid, was now the question—to all who have lost by depreciation, or to the bearer

simply? To this the answer was made, to the bearer alone. Any attempt to discriminate between those who have lost by the depreciation and those who now hold the paper would ruin the national credit on the London Exchange. And, despite the protests made by men like Jefferson and Madison, against what they regarded a scheme to rob the real creditor for the benefit of the mere speculator, the Hamiltonian plan was adopted, and the foundation of the public debt was laid.

Prof. Dyche's Visit.

The Faculty and students were treated yesterday morning to a short talk by Prof. L. L. Dyche of the State University. The event had been anxiously looked for, as the students were eager to see and hear the Kansas man who had been so near the North Pole.

Prof. Dyche spent his boyhood on the banks of the historic Wakarusa, where he performed the duties ordinarily devolving upon the boy on the farm. His early education was meager, not learning his letters until he was twelve years old, and not being able to read a newspaper until he was seventeen. At that time, ashamed to go to school in his native village, he entered the State Normal, from which, after a three years' course, he received a diploma entitling him to teach in the schools of Kansas. Later, he graduated from the State University. In 1885, he was made Assistant Professor of Zoology at that institution, and in 1890 he was made Professor of Zoology and Natural History, and curator of birds and mammals, which position he now holds. He has made seventeen expeditions to different parts of the North American continent, and was a member of the Peary relief expedition.

In the limited time allowed the Professor, he briefly but tersely presented some of the requisite qualities of a true teacher and student. The true teacher is he who can inspire the student to take up the work of investigation for himself; while the true student is he who not only studies the text before him, but also reaches out that he may get a comprehensive knowledge of the subject in hand. He plead for a temperate life in all things, believing that it was the observance of that rule which has enabled him to endure the hardships by which he was confronted in the various expeditions.

His illustrated lectures at the Opera House yesterday afternoon and evening were highly entertaining.

COLLEGE ORGANIZATIONS.

Student Editors.—May Bowen, J. B. S. Norton, John Poole.

Alpha Beta Society.—President, A. C. Peck; Vice-President, Grace Secrest; Recording Secretary, E. A. Powell; Corresponding Secretary, Etta Ridenour; Treasurer, Guy Hulett; Critic, Inez Palmer; Marshal, W. H. Ellis; Board of Directors, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, E. H. Webster; Vice-President, E. G. Gibson; Recording Secretary, W. J. Rhoades; Corresponding Secretary, J. B. Norton; Treasurer, E. E. Butterfield; Critic, T. M. Robertson; Marshal, H. L. V. Uhl; Board of Directors, F. H. Myer, J. E. Trembley, C. H. Stokely, J. H. Bower, T. W. Allison.

Hamilton Society.—President, John Poole; Vice-President, G. C. Hall; Recording Secretary, A. L. Frowe; Corresponding Secretary, L. A. Fitz; Treasurer, G. G. Menke; Critic, C. F. Doane; Marshal, W. J. Goode; Board of Directors, J. W. Holland, S. J. Adams, A. W. Staver, C. E. Copeland, A. J. Pottor.

Ionian Society.—President, Clara Newell; Vice-President, Gertrude Lyman; Recording Secretary, Minnie Spohr; Corresponding Secretary, Olive Long; Treasurer, Mary Norton; Critic, Miriam Swingle; Marshal, Hattie Goode; Board of Directors, Minnie Pincomb, Ellen Norton, Gertrude Lyman, Bessie Lock, Winifred Houghton.

February 21st.

A well-filled room greeted Pres. Newell as she took her place and called the Ionians to order. The Society joined in singing. Minnie Pincomb led in prayer. Four new members were initiated—Mable Crump, Isabel Symns, Anna Pfuetze, and Miss Shartel. May Bowen opened the program by telling a most interesting story of the College spade. Pearl Cunningham presented the "Oracle," for which she deserves great credit, as it was an exceptionally good one. Gertie Rhodes rendered a piano solo. Ary Johnson gave an "Invective" which contained many good thoughts. The reading, by Miss Threlkeld, was listened to with great interest by all. The question, "Has the prevalence of fiction in modern literature been on the whole for good rather than evil?" was presented affirmatively by Maggie Carleton, and negatively by Susan Johnson. Many good points were presented on both sides. Jeannette Perry rendered a vocal solo in a most pleasing manner. The program was closed by an instrumental solo by Stella Stewart. After the usual orders of business, assignment of duties, report of critic, and roll-call with quotations, the Society adjourned. O. A. L.

February 21st.

Vice-President Secrest called the Alpha Beta's to order. The first on the program was a piano solo by Mary Finley. Mr. Chandler offered prayer. An attractive vocal solo by L. W. Hayes, Marian Gilkeson accompanying on the piano, came next. The declamation, "My experience with a Cow," by Arthur Tannehill, was well delivered. Misses Manchester, Blachly, Pierce, Needham, and Zimmerman interested the society for a few minutes in a round reading, entitled "A Mysterious Duel." The discussion on the subject, "The specialist or the man of general education, which?" was discussed by M. G. Spalding and E. A. Powell. Mr. Spalding argued that we owe every invention, discovery, and improvement in society to the specialist. The work of a person with a general education is scattered over too broad a field. In order to accomplish much, we must devote our whole energy in one direction. Specialization is

the law of nature. It is a product of development. E. A. Powell said that education is a growth, not a fitting up process. The specialist, being engaged in one line of work, has a narrow view of life. He is only fitted for one line of work. Franklin was spoken of as a man of general education. Our country would not be safe in the hands of the specialists. We want men who can see all sides of a subject. A specialist must have a general education before he can become a specialist. Marian Gilkerson favored the Society with a piano solo, "Premier Nocturne." This was rendered in a very pleasing manner. The Gleaner, by the first division, Elva Palmer, editor, was read by Mary Paddleford. The motto was, "Whatsoever thy hand findeth to do, do it with thy might." The contents were, "Editorial," "Monday Vacation," "Self Control," "Luck," and "On the Way to College." Recess. Piano duet, by Adelaide and Josephine Wilder. Roll-call, unfinished business, adjournment. M. E. J.

February 22nd.

At the usual time Pres. Poole ascended the stage and called the Hamilton Society to order. W. L. Hall led in devotion, and after reading of the minutes, the program of the evening was taken up. Mr. Kingsley gave an interesting and amusing declamation, in which he described the troubles of a Dutchman with a telephone. An excellent selection from John B. Gough, entitled "What is a Minority?" was delivered by M. C. Adams in a very creditable manner. It contained many good thoughts, and showed that many of our most prominent leaders were once in the minority. The question, "Resolved, that the United States government should not furnish employment to the unemployed," was argued affirmatively by G. G. Boardman and L. H. Thomas, and negatively by R. K. Farrar and E. M. Haise. The debaters thoroughly discussed the question, and many good points were brought out on both sides. It was claimed that to raise the standard of our government, we must educate the people, and that the government would not be aiding this by saying, "Come to me, and I will give you work." Such a step would create two divisions in society; viz., the employer and the employee, and we do not wish to encourage castes. It would also be making the industrious man support his more indolent brother. On the other hand, it was argued that such action should be taken to benefit the honest man who is often thrown out of employment. Man must live, and if he cannot get work, he must depend on charity, and should this fail him, he will resort to crime. Many cases were cited where much benefit had been derived by employing the men on public works. B. B. Farris read a well-prepared essay on, "The Benefits of Study." G. H. Dial, in his oration, "Home Rule in Ireland," pictured the present condition of things in that country. The Hamilton band favored the Society with several patriotic selections. A good edition of the "Recorder" was presented by its editor, W. A. Coe. E. R. Barker read a humorous selection entitled, "A Corner on Pork." The remainder of the session was spent under unfinished business and new business. G. C. Hall was appointed committee on annual speaker. Adjournment. L. A. F.

February 22nd.

Promptly at 7:30 a large number of Websters assembled on hearing the rap of the gavel in the hands of Vice President Gibson. After roll-call, the Society was led in devotion by F. E. Uhl. The initiation of E. Bidwell completed a roll of one hundred members. The program was one prepared in honor of Washington, and was opened by the question, "Washington or Cromwell, which?" Messrs. Horn and Masters, in favor of the affirmative, briefly reviewed Washington's life as a student, citizen, general, and president. They spoke of his love for his country, which was shown by his sacrifice and good generalship; of how he gained love and distinction by his unselfish labors for his country; and of his fitness to assume the power of government when peace and harmony were restored. They compared Washington and Cromwell in regard to motives which moved them to action. Washington was inspired by pure and unselfish principles, and worked for his country and not for self. Cromwell, although as brave as Washington, worked more for self, and cared little for his country. Messrs. McDowell and Miller, in rebuttal, said that, although Cromwell lived far from us, and we did not feel his influence so much, he was nevertheless greater and superior to Washington. As a student and citizen, he was Washington's equal, and when it came to military achievements, he had fought and won more victories than Washington. He was converted to Puritanism, and in 1543 was called to Parliament. The king was opposed to him, but in battle he won many victories for the Puritans, and was made Lord Protector in 1563. Although selfish and self-esteemed, he was never the less ambitious and brave. The Society decided in favor of the affirmative. After debate, the Society was well entertained by vocal music from Messrs. Dorman, McCauley, and Conover, accompanied by W. J. Rhoades on the piano. The Reporter, edited by F. H. Myer, was well presented, and had for its motto: "Always hold Patriotism in venerable respect." Among the contents were, "Character of Washington," "Washington," "Washington's Boyhood," "Washington's Courtship," and "A Protest for Better Work." Next was a declamation by O. U. Blair, entitled, "Washington." By request the Hamilton Band rendered "Star Spangled Banner," and responded to an encore with the old familiar air, "The Red White and Blue." E. G. Gibson read an original poem which merited commendation, and gave evidence that the Society was becoming poetical as well as musical and oratorical. The essay, entitled, "America," was well written and read by R. M. Brown. After Critic's report, new and unfinished business was taken up. Adjournment, 10:45. C. H. S.

What "X Ray" Means.

It must have puzzled many people who have been reading about the great new photographic discovery by means of which pictures are taken through solid substances to account for the application of the name "X rays" to the peculiar electric light employed in the process. William D. Weaver, editor of the *Electric World*, in discussing the new discovery yesterday, gave an interesting account of the X ray christening.

"It is a great injustice," said Mr. Weaver, "to Prof. Roentgen, who discovered this enormously valuable phenomenon, that the rays should be alluded to as the X rays. It is also another illustration of the great power of the press, even when this power is inadvertently applied. It is the custom among scientists, that is scientists of the class to which Prof. Roentgen belongs, to practice exceeding modesty.

"When they make a discovery which they give free to all the world, etiquette and their own native diffidence prevent them from putting forward this discovery under their own name. That is to say, in Prof. Roentgen's case, for instance, when in making his discovery public in a scientific paper read before the body which he first addressed on the subject, he referred to his rays as the X rays, leaving it to the world to substitute Roentgen where he used X. This was perfectly understood, of course, by the scientists, and in passing the matter along, they always referred not to the X rays, but to the Roentgen rays, just as we refer to the Crookes tube.

By some means, however, Prof. Roentgen's original paper was published, and the newspapers immediately began to call the new light the X ray, until now that name is stuck hard and fast, so hard and fast that Prof. Roentgen's name is gradually disappearing. Everybody, almost, now speaks of them as the X rays, and in a few months, when this excitement regarding the discovery has died out somewhat, most people will probably have forgotten all about the man who found this wonderful power and gave it to the world.

"The newspapers adopted the 'X ray' appellation from very natural motives. The X ray is a much shorter name than the Roentgen ray. But a grave injustice is being done to Prof. Roentgen. Surely, if any man ever deserved that his name should become immortalized in connection with a discovery, that man is Prof. Roentgen."—*New York Journal*.

The Ideal Home.

It has been remarked that the best housekeeper is the sort that one never notices, and the same may be said of furniture and decorations. In a certain drawing room the preponderance of brass and onyx stands at once attracts the attention of the caller, who feels an irresistible impulse to be continually counting these gorgeous little tables to make sure that there are seven and not eight of them in sight. The effect of such sameness in furnishing, especially when very noticeable articles are used, is to counteract whatever daintiness the home might otherwise possess and to suggest a lamentable want of taste on the part of the owner or rather the mistress.

The ideal home gives evidence in every part of woman's softening influence and of her desire to provide restful surroundings that will quiet the wearied eye, brain and body. All colors are soft, cheerful and tastefully combined. Easy chairs abound and are evidently intended for practical service. The sunlight is freely admitted by day. Softly shaded lights are used by night. There is no lack of footstools, sofa pillows and headrests, and, best of all, the true domestic spirit broods over the whole, lending a charm that money cannot buy or poverty exclude.

What a Woman Can Do.

What a woman can do in the South has been shown by the success of Miss Annie Dennis of Talbotton, Ga., who attracted some attention at the Atlanta Exposition. She is a fine-looking young woman of about 25, and possesses a genius for farming.

She owns a handsome estate of 1,000 acres, which she cultivates with great skill and success. Upon it she conducts a dairy, a stock farm, a cannery, a preserving establishment, a vineyard with a fine winery, and a piggery. Each of these are prosperous to a high degree. The owner is public spirited, and exhibits her products at every fair and exposition. She began this work in 1888, and in seven years has carried off nearly 100 prizes.

She ascribes her success to a good education and careful reading. She makes a special study of the application of science, especially chemistry, and utilizes every new idea which appears. At the present rate she will be independently rich in twenty years. —*Colman's Rural World*.

Deep Breathing.

Cultivate the habit of breathing through the nose and taking deep breaths. If this habit was universal, there is little doubt that pulmonary affections would be decreased one-half. An English physician calls attention to this fact, that deep and forced respirations will keep the entire body in a glow in the coldest weather, no matter how thinly it may be clad. He was himself half frozen to death one night, and began taking deep breaths and keeping the air in his lungs as long as possible. The result was that he was thoroughly comfortable in a few minutes. The deep respirations, he says, stimulate the blood currents by direct muscular exertion, and cause the entire system to become pervaded with the rapidly generated heat.—*Medical Report*.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

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Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

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A TRIP THROUGH WESTERN KANSAS. III.

BY PROF. A. S. HITCHCOCK.

OUR experience in the canon of Logan County enlarged our bump of caution somewhat, and we met with no further accident for some time. As we passed into Wallace County, we veered to the south and crossed into Greeley County near W. H. Seavern's ranch. Here we were very hospitably entertained. Our host tried to look unconcerned as the victuals disappeared, and we, in our turn, tried to curb our appetites within normal proportions. However, the table was bountifully supplied, and, among other things, with the finest bread I ever saw (I admit we were in a condition to appreciate good bread). We passed on across the high, level prairie to Selkirk and Leoti. Here we decided that we would have time to visit the southwest corner of the State. So on August 1st, we started over the high plains for Syracuse, a distance of fifty-five miles. We covered this in a day and a half, which, considering that we had one horse and 1,500 pounds of load, was making good time. It must be remembered that we always stopped to collect when opportunity afforded.

We had been troubled at night with the mosquitoes. The night spent between Leoti and Syracuse, we camped in northeast Hamilton County, on the high divide between the Arkansas and White Woman river. We thought that surely so far from streams, and on so high and open land, we should be free from the little pests. But as soon as the sun went down, we heard, much to our astonishment and regret, the gentle murmur of their musical voices. On they came, in myriads, forming dense swarms, and buzzing like a distant threshing machine. We smudged out our tent, and slept in comparative comfort, but the poor horse suffered severely. We were obliged to strap a blanket around it, and put a sort of hood over its head to protect its eyes and ears.

At Syracuse, we learned that recent floods had washed out the bridge at that point, hence we were obliged to go up to Coolidge to cross. The road was very bad, and it took us all the afternoon to get to Medway, about eight miles. We found, however, that this was but a gentle introduction to what was to follow, for after crossing the bridge at Coolidge we had two miles of the worst road I ever saw. Men were busy hauling straw and putting it into the holes. We were certainly very lucky to get through without a break down. After this we had eight miles of the sand hills. This was hard pulling, but we could take our time to it, and were in no danger of being shaken into debris. Moreover, the sand hills furnished excellent collecting, which always put us in better humor for bad roads. From Coolidge the road is nearly a straight line for sixty-five miles to Taloga. In Stanton County, we crossed Bear creek, which had been a raging torrent not long before, but was now a quiet stream about a foot deep. Some fair-sized trees were found here.

Taloga looks big on the map, but we were not able to get a loaf of bread or a pound of butter there. Our goal was "Point of Rocks," seven miles southeast of Taloga on the Cimarron river. This is a high ledge of rocks, upon which the flora of the southwest has gained a foothold, and which therefore furnished us excellent collecting. The river was high, and we did not dare to cross at any point where we found fords. This is the south fork, and is the main stream, the north fork having scarcely any water in it at that time. Our route lay through Richfield, Dermot, east to the Cimarron, and north to Ulysses. We left the main road in going down to the river, and for twelve or fifteen miles we were obliged to follow our noses. For a few miles, we traveled along an old and long-abandoned Santa Fe trail, one going ahead to spy out the very faint trail.

Richfield proved to be a city of magnificent collapses. From a distance, it appeared to be a place as large as Manhattan, and possessed as fine a courthouse as I have seen in the State. Closer inspection showed, however, that there were very few inhabitants, and we were able to obtain a loaf of bread only after diligent search, and then through the kindness of a matron of the village. From Ulysses, we traveled east into Haskell County, and then north to Garden City. On the morning of August 10th (Saturday), we started from the Grant County line for Garden City. About the middle of the afternoon, we arrived at the sand hills, which extend along the south side of the river. We had already gone thirty-two miles. We kept on, hoping to reach Garden City that night. We traveled four miles during the next

two hours. Our horse showed signs of exhaustion, and we were obliged to make a dry camp. Camping in the sand hills is not very romantic. Our tent pegs were insecure in the sandy soil, and a hard wind would have flattened our camp in two minutes. Luckily, we had neither wind nor rain. As the day had been very warm, I resolved to take the horse on to Garden City and give it some water. So I left Mr. Pond to put up the tent, and started out about dark. I had already walked about twelve miles, and the eight miles in the dark, over the worst sand hills in the State, did not rest me. The horse was so tired that I did not risk trying to ride. In the morning, we went to the city, where we camped. During the ten days past we had averaged nearly thirty miles a day, excluding Sunday, on which day we had always camped. During this time we had collected, in the eight counties visited, about five thousand specimens.

Our route after leaving this place lay north to Scott City, east to Dighton and Ness, south to Jetmore, east to Rozel, north to Rush Center, east to Great Bend, Lyons, McPherson, and Marion; through Elmdale to Council Grove, over a succession of rough and steep flint hills, and then north to Manhattan by way of Alta Vista, arriving late Saturday night at the end of August.

Lack of space prevents an account of the adventures, accidents, and experiences undergone. However, taken altogether, our trip was a prosperous one. We had but two serious accidents—the loss of our horse at Hog Back, and a break-down in Logan County, both due to a relaxation of our accustomed caution, and both repaired more easily than might have been the case. Indeed, we had reason to feel many times that we were particularly lucky. At times, when wind and rain might have done serious damage, the sky was serene. Breakdowns always occurred at places where they could be easily repaired. Many articles were lost, such as our whip, packages of plants, etc., but we were almost always able to go back and find them. One day we lost the cover to our stew-pan, and had proceeded several miles without missing it, when we were overtaken by a lady in a buggy, who, much to our astonishment, brought us our lost cover. We were treated everywhere with the utmost kindness and consideration.

We traveled during the nine weeks over one thousand miles, collected in thirty-four counties, set up the tent fifty-five times. We were neither of us sick a day, nor was our horse. We had at all times good water. This, however, required considerable care. We inquired in advance as to watering places, and were able to carry water for ourselves from one place to another, giving the bad water the go-by. The trip was certainly satisfactory from a botanical standpoint. Our knowledge of the flora of the State has been greatly increased, many plants not hitherto known to occur in Kansas being brought back. It is hoped that some future season a similar trip may be made through the southern counties.

MOB INJUSTICE.

BY PROF. FRANCIS H. WHITE.

HARDLY a week goes by without accounts in the papers of summary "justice" administered by a mob. Now and then it transpires, as it did the other day, that a man who had been lynched was innocent of the crime for which he was hung. Little is made of these mistakes, however. Such warnings are unheeded, and mobs continue to make themselves judge, jury, and executioner. They glut their desire for revenge under the pretense of administering justice.

Most of these lynchings have occurred in the Southern States, and have been called out by a peculiarly brutal and terrible crime. Here is the record as given by the Nashville *Banner*, and quoted by the *Outlook*:

"During the past year mobs killed 171 persons—161 men and 10 women. Of these lynchings, 144 occurred in the South, and 27 in the North. Of the total number killed, 112 were negroes. The number of legal executions in the United States last year was 132, of which 89 were in the South, and 43 in the North."

It will be seen from these figures that the number killed by mobs is actually greater than those legally executed. Surely this is a blot upon our Nineteenth Century civilization! Statistics seem to show that the South is awakening to the injustice and danger of such lawless methods, as the number killed by mobs last year is less by 64 than that of the year 1892. What could excuse such a resort to violence, such

denial of the first principle of justice, namely, the right to be heard in one's own defense? No, the greater the crime, the more carefully should the proceedings be conducted, both because of the consequences to the accused, and also because of the public interest involved. Can it be excused because of the fear that justice will not be done? Again we answer, no. If the case is clear enough for a mob to have no doubts, it ought to be sufficiently clear to a jury. In the great majority of cases, however, there was no likelihood the prisoner would escape his just dues—poor, friendless, of an inferior race, public opinion against him, who could believe he would fail of conviction?

Can the expense attendant upon a trial be urged as an excuse for such mob injustice? This is a despicable plea. Shall we, then, deny a fellow creature his right to a fair trial because, forsooth, the administration of the law would cost something? Shall we turn the government over to a mob because to run it involves expense? Let us make no mistake. Such a lawless act as lynching, constantly repeated, and always unpunished, will prove exceedingly costly in the long run—not only in character, but in dollars and cents.

The plea that law breakers would receive a fearful warning from such summary vengeance is perhaps the strongest, but certainly it is doubtful whether the imagination of the vicious would be more impressed by such displays of vengeful passion, lawless and unjust, as by the calm, firm, fair administration of the law. The first displays an unrestrained, violent, and revengeful spirit; the second, a spirit calm, judicial, inexorable.

Sometimes the dispatches say the "best citizens" formed or led the mob. It is quite possible the report is incorrect in this particular, and that the phrase is used to throw the cloak of respectability over the affair. But if it is correct, the "best citizens" are far from being the best possible citizens. With all their virtues, one thing they lack—a high sense of justice.

THE SUN AS A GERMICIDE.

BY PHIGE E. HAINES, '83.

RECENT investigations by Prof. Marshall Ward and other scientists of note have revealed such wonderful facts regarding the action and powers of sunlight as to lead to the assertion that "no subject more vital to the interests of mankind exists in the whole domain of biological science." Botanists have long known that each ray of the solar spectrum has its own peculiar action on vegetation, and that it is essential to the welfare of common plants that they should be exposed to or excluded from certain rays of light, and that the light to which they are exposed should be composed of rays combined in proportions suited to their growth.

The blue-violet rays play an active part in the growth and heliotropism of plants; the red-orange rays aid in assimilation, and the ultra-violet rays are thought by Sachs to assist in the development of colored flowers.

Previous to the time of Prof. Ward's experiments, quite a diversity of opinion existed among scientists in regard to the action of light on bacteria. Many of the more conservative doubted whether light is injurious either to spore or bacillus. Others believed that all or part of the solar rays are bactericidal in effect, either by poisoning the food medium or by acting directly on the spore or bacillus itself. Prof. Ward conducted a series of careful experiments with a view to settling, if possible, these and other disputed questions. The spores used were those of yeasts, fungi, typhoid, anthrax, and various Thames River bacilli. By placing the spores in pure water, or some suitable culture, an exposure to the direct rays of the sun for half an hour or so was sufficient to kill certain kinds, while drying in an oven at 70° to 80° C., or immersion in broth or water at 55° to 60° for hours, or even boiling for a minute or two, were not injurious. The cultures used in these experiments evidently took no part in the destruction of the spores, as they would readily grow healthy colonies of bacilli when sown with live spores, and, what was still more conclusive, thoroughly dried spores were as easily killed as those in the cultures. The latter fact makes it clear that we have nothing to fear from the spores floating in the atmosphere so long as we allow the sunshine to penetrate our dwellings. By the aid of colored solutions, of colored screens, and of the spectrum itself, the effects of the different rays were noted, proving conclusively that the blue-violet rays are the ones destructive to bacteria. Prof. Ward believes color screens to be common in nature wherever spores and tender growing cells must germinate in the light. Pollen grains and various fungi are often covered with coats of red, orange, or

some other color which will exclude the blue-violet rays, and thus protect them. He found that direct sunlight acts much more quickly than diffused or reflected light; that the long-continued rays of the summer or tropical sun are more powerful than those of winter or of the frigid zones; that light passing through glass or a misty or hazy atmosphere is weakened in effect, but long exposure, even to a light of feeble intensity, will either kill or very materially injure the power of growth and action of the spores and the vegetative bacilli. He thinks the kind and intensity, and not the source of the light, determine its action.

In this series of interesting experiments, it was shown that objects, even landscapes, may be photographed by using films of living spores. With our present knowledge of the sun's action on these microscopic organisms, it is not difficult to understand why in continued damp and cloudy weather potatoes and tomatoes rot, fruits mildew, and molds and fungi flourish; and why acetic fermentation is retarded by sunlight. Prof. Zacharewicz of Vaucluse recently made a series of tests with strawberries to determine the practicability of improving the growth of plants and fruits by placing them under colored glass. He found that red, green, and blue light injured the plants; that the violet increased the quantity of berries, but delayed the time of ripening and produced inferior fruit; and that the orange increased the vigor of the plant, but produced inferior berries which were slow in ripening. The best and earliest ripening fruit was obtained with uncolored glass. If light acts so powerfully on plants, we may well consider the effects on human beings. The *Popular Science Monthly* gives an account of certain experiments on growing children which would indicate that they have yearly three different periods each of growth in height and increase of weight, corresponding to like periods of growth in height and thickness of the trees in the garden, these periods being apparently unaffected by local atmospheric changes.

Sunstroke, sunburn, snowblindness, and other results of direct exposure to the sunlight are not well understood, but are thought to be due in part only to the thermal rays. The subject of the curative powers of the sun offers a wide field for research, and may yet prove a mine of untold value to medical science. It has already been found that exposure under proper conditions to the direct rays of the sun is beneficial and often effective in the treatment of many diseases. Even a temporary exclusion from sunlight, as in protracted cloudy weather, induces a depression of mind and body which lifts only with the parting of the clouds.

It has been suggested that the alarming prevalence of baldness among men may be due to the wearing hats, excluding air and light. A treatment consisting of short exposures of the scalp to sunlight is recommended as a hair restorer.

Dr. Thayer of San Francisco considers the sun the best surgical agent in the treatment of ulcers, tumors, morbid growths, and parasitic skin diseases. He says that "during a practice of more than a quarter of a century" he has "found no caustic or cautery to compare with solar heat in its beneficial results. Unlike other caustics, it can be applied with safety on the most delicate tissues, and the system receives this treatment kindly. The irritation and inflammation are surprisingly slight and of short duration, the pain subsiding immediately upon the removal of the lens." As electric light is the same in nature as that of the sun, it has been suggested that the naked arc light may be used as a disinfecting agent in railway carriages and hospital wards, where, by a proper use of screens for the protection of the eyes, it may be used with beneficial results.

It is a matter of vital importance that there shall be a practical application in home life of the knowledge in our possession regarding the influence of sunlight on human health and happiness. Articles of wearing apparel and bed furnishings which cannot be laundered should be frequently sunned. Plan to be out in the open air at least a part of each day, even in cold weather. Open wide the shutters, throw up the shades, let in the purifying rays of the sun; better far that carpets should fade than that constitutions be enfeebled.

The emphasis which the Creator placed upon the importance of light in making it His first gift to the world should lead us to a careful study of light,—its powers and influences,—that we may forge for ourselves a new and more formidable weapon in the warfare for the conquest of nature.

Useful Shade Trees.

Where a tree is desired for shade or ornamentation, the advantages of the nut-bearing trees should not

be overlooked, as many of them are symmetrical in form, give a dense shade, are hardy, and the nuts after ten or twelve years of growth will more than compensate for the interest on the land they occupy. Plant only the kinds that are known to do well in the section where they are to be grown. The chestnut, hickory, walnut, and butternut are hardy, and by a little attention for a few years will take care of themselves. In many situations some of the hardy fruit trees will produce the desired shade and give an abundance of fruit at the same time—important considerations.—*Orange Judd Farmer*.

The Farmer Boy and His Opportunities.

The *Baltimore Sun* reproduces from the INDUSTRIALIST the article bearing the above caption, written by J. J. Fryhofer, '96, and comments thereon as follows:

"The boys on the farm have today very different opportunities offered them than was the case some years ago. Today farming is recognized as an occupation that calls for skill and intelligence. With the implements and machinery now in use on the farm, farming has been brought up to a degree of perfection that makes it actually necessary not only for the farmer to be a wide-awake, energetic man, but he must be fairly expert in many things. The attractions of home are each year being made stronger on the farm. The farm home of today may be one of beauty and joy. A comfortable dwelling picturesquely situated, a lawn bright with flowers, a garden full of the luxuries of the season, swinging hammocks, and lawn-tennis grounds—in fact, all the many things that make the summer so full of joyous life to the young, the farms can have. No city lot, no village grounds, can compete with the farm when its occupants have their 'hearts in the right place.' Some years ago the writer heard an old farmer, whose hair was white as the winter snow, say to a lot of farmers waiting for the arrival of the mail stage in a town in Western New York: 'Nothing makes me feel old 'cept the absence of the youngsters. If it wasn't for festivals or lawn parties, the meeting of choir, apple-picking bees, and sleighing parties at our house, I'd forgot long ago that I had any heart. When I see the young folks enjoying themselves it makes me feel young and happy.'

"That old farmer has long since passed away, but the old homestead is now occupied by a son whose heart delights in young company and in seeing them fully enjoy themselves.

"It is hardly necessary to state that this homestead is a model one, and so attractive is the farmhouse, with its beautiful surroundings, that strangers passing by stop to admire it.

"The farm life need be no humdrum one, but every day of its existence can be such as to endear it to all. The time has forever gone when the farmer lad need be ashamed of his vocation. Agriculture is recognized as the noblest calling of mankind; it rules the business world. The fact that many of the world's greatest men in all walks of life first commenced their steps to renown on the farm is significant. The farm lad of today can well feel proud of his calling."

Benefits from Subsoiling.

Irrigation is not always practicable; first is the scarcity of water; second, the unevenness of land; third, lack of means to put in a plant; fourth, lack of experience and change of farm methods; fifth, the fact that in many seasons there is sufficient moisture from natural rainfall, causing enforced idleness of the plant and a return to the ordinary methods of farming. Taking all these difficulties into consideration, a writer in the *New England Homestead* thinks that the most practical remedy is subsoiling. He says:

"There few if any seasons when good crops could not be raised if the natural rainfall could be retained by subsoiling. It has many advantages over irrigation. A few acres can be treated each year until the whole farm has been gone over. No expensive apparatus is needed. Three heavy horses can run a subsoiler sixteen inches deep in an open soil free of stone. By subsoiling twice, the second time crosswise, the ground can be stirred to a depth of twenty inches, and will hold an immense amount of water, which, instead of running off into streams, is stored for future use. Experiments the past year have shown that this treatment has doubled the yield. When the subsoiling must be repeated, it can be done for half the original cost. One great advantage is that it necessitates no change in the methods of farming. This is a practical way of getting the benefits of sub-irrigation."—*Colman's Rural World*.

The Farmer's Trade Papers.

Among the most potent forces—and just at the present time may be said the most effectual in progressive agriculture—is the agricultural press. Scarcely any farmer who can read can evade its influence. These papers are forcing themselves into every home, and no hamlet is too remote for them to reach. They are doing the greatest missionary work of our day, shedding light into the firesides of people, telling them what to do, how to do, and when to do, in tilling the soil, planting the seed, gathering the harvest, caring for the product, and how to feed it for best results; what kind of stock the best to feed it to, how to improve the farm, how to keep house, how to decorate it, and how to live comfortably and happily. It gathers together and hands to the reader in a concise and reliable form the experience and achievement of the investigators, inventors, and operators of the whole world.—*J. P. Gibson*.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.

1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Prof. Georgeson made a business trip to Topeka on Thursday.

A number of students drop out this week to begin work on the farm.

Secretary Graham reported the Cherryvale Farmers' Institute for the *Kansas Farmer*.

Two more cases of scarlet fever among students are reported this week. Neither is considered serious.

Cora Atwell, Fourth-year, has returned to classes after three months of teaching, intending to graduate in June.

At the meeting of the resident alumni, held in the reception room on Saturday evening last, preliminary arrangements were made for the triennial reunion and banquet. C. M. Breese, '87, was elected Treasurer, vice Julia R. Pearce, '90, resigned.

In accordance with joint action of the College and the Webster Society, tickets of admission will be issued for the Annual of March 14th. They are free, and will be distributed by the general arrangements committee in the Webster Society room. Those connected with the College have been furnished, and until the supply is exhausted, tickets may be obtained by the public on Tuesday, Wednesday, and Thursday, March 10th, 11th, and 12th, between the hours of 1:00 P. M. and 4:00 P. M. The age of admission has been raised to fourteen years. Tickets admit the holder to the building.

The Chapel entertainment yesterday afternoon was in charge of the Fourth Division of the Fourth-year class: "Optimism," C. W. Lyman; "Life and Living," J. B. S. Norton; "Individual Judgment," Elda Moore; "The Regulation of Vivisection," C. S. Marty; "Equal Pay for Equal Work," A. H. Morgan; "Spring Time," Mary K. Painter; "Some Points in Rural Architecture," C. D. McCauley; "A Mistake," Edith Lantz; "The Flag and the School-house," R. S. Kellogg. Good music was furnished by the Cadet Band, and by Messrs. Finley, Spalding, Johnson, and Hayes in a vocal quartet.

Accessions to the Library for the week ending March 7th: Principles of Agriculture, Winslow; Cornstalk Diseases and Rabies in Cattle, Salmon; Naval War College, Abstract of Course, 1895; Secretary of War, Vol. 1, 1894; Secretary of War, Vol. 2, 1894, Engineers pt. 2; A Tale of Two Nations, Harvey; The Science of Nutrition, Atkinson; Commissioner of Education, Report for 1892-3, Vol. 2; Kansas State Horticultural Society, Vol. 20, 1894-5; Foreign Relations of the U. S., 1894; Iowa State Dairy Commissioner, Boardman, 1895; Operations of the Division of Military Engineering of the International Congress of Engineers.

A graduate, after two years in one of the most famous universities of the country, writes: "The general foundation which your College gives for all special and higher studies no university can give. The university is no place for a student who has not fully made up his mind as to what he wants to do. Of this I am more fully convinced every day, when I see the time wasted by many students (?) who are here for no other purpose but to pass and get a diploma, and to do this they elect what they call 'snaps' for no reason but to get so many hours of credit. My advice to every young person would be to take a general course of training first, and then specialize. For a general course, I know of no better place than the K. S. A. C."

The Farmers' Institute and Live-Stock Convention, held at Concordia on Thursday and Friday of last week, was one of the most successful ever held in the State. Every one of its five sessions was well attended, the papers were carefully prepared, the discussions spirited, and the subjects well chosen. On Thursday evening the audience must have numbered nearly five hundred. Among the home papers may be named as especially good, one on Shorthorn Breeding, by H. W. Spalding; one on Country Produce, by John Stewart, and one on Woman's Work on the Farm, by Mrs. Mary E. Rogers. Several speakers from abroad were present. Prof. H. R. Hilton of Topeka contributed some interesting experiments pertaining to "Wastes and Savings of Soil Moisture." Prof. Cowgill, of the *Kansas Farmer*, spoke on "The Best Time to Market Stock and Hogs," illustrating the fluctuation of prices by a large diagram chart; Mr. Tomblin, member of the State Irrigation Board, read a paper on irrigation; Prof. Georgeson, of the Agricultural College, spoke on the "Comparative Value of Stock Feeds," proving his statements by referring to a colored chart; and Prof. Walters, of the Agricultural College, lectured on the evening of Thursday on "Gumption on the Farm." The *Kansas Farmer* will probably publish a number of the papers

of the program in the near future. A permanent institute association was organized, and in the future the Cloud County Institute will be an annual feature of the winter program of the farmers of the central part of the Republican valley.

GRADUATES AND FORMER STUDENTS.

May Secret, '92, visited her sister Grace during the week.

May E. Willard, '95, changes her post office address from Alma to Wamego.

D. C. McDowell, '91, seeks health and fortune in the rugged life at Cripple Creek.

C. D. Pratt, '85, is in business at Dallas, Texas, as general agent for the Lucas Paint Co.

S. H. Creager, '95, visited at College on Monday. He plans to take a civil service examination soon.

Lorena Clemons, '94, is kept from her duties in the Secretary's office by a slight attack of scarlet fever.

Grace Clark, '92, clerk in the Executive Offices, stayed at home on Thursday to doctor a very sore throat.

J. B. Thoburn, '93, and Mrs. Rachel Callie Conwell-Thoburn have an irrigation plant near Syracuse, Hamilton County, Kansas.

C. V. Holsinger and Olive Wilson, both of '95, are, according to announcements in the public prints, to be married, March 19th, at the home of the bride in Austin, Illinois.

The marriage of M. E. Chandler, Second-year in 1892-3, to Harriet E. Jones of Kansas City, Kansas, is announced for March 18th. The young people will be at home in Argentine, Kansas, after April 1st.

E. L. Gamble, Third-year in 1887-8, mourns the loss of his two-year-old daughter Mabel, who died at Ophir, Colo., February 10th. Mr. Gamble is station agent for the Denver & Rio Grande Railway company at Ophir.

Emma Adams, student in 1892-3, was married Monday, March 4th, in Manhattan, to W. E. Ferguson. Mr. Ferguson has resigned as clerk in the Purcell stores, and will go into business on his own account at Waterloo, Iowa.

Lewis W. Call, '83, who has for several years been in the service of the Government at Washington, has just been promoted to Chief Clerk, Judge Advocate General's Office, War Department, with a salary of \$2,000. He gives expression of interest in his Alma Mater still, and hopes it may continue to grow in numbers and usefulness.

THE COLLEGE "COLONY" AT CRIPPLE CREEK.

President Fairchild, being in Colorado on College business last week, made a visit of a day to that city of new mines, Cripple Creek. Amid the bustling throng of seekers after precious metals, directly or indirectly, a considerable number of graduates and former students were met, and others were heard about. F. M. Jeffery, '81, with Mrs. Hattie Lightfoot-Jeffery, occupy the home of the Mayor of West Cripple Creek, the newest part of the city. Mr. Jeffery has an extensive practice as a lawyer in the abundance of conflicting claims of a mining region. W. J. Lightfoot, '81, and Mrs. Grace Strong-Lightfoot have their home also in West Cripple Creek. Mr. Lightfoot is City Engineer, but his chief work is that of mining engineer, in which he has the help of ten assistants. In Mr. Lightfoot's employ are E. H. Kern, '84, and W. H. Steuart, '95. Another mining engineer of experience is Mr. F. E. Baxter, student in 1888, who has been at Cripple Creek for several years. Others met in the course of the day were J. L. McDowell, '92, Farry Strong, J. L. McNair, S. E. McNair, and Mr. Will. Among those reported to be in the neighborhood were F. W. Dunn, '84, Harvey Dunn, S. N. Swinglee, and Horace Adams. With a little longer notice, a considerable reunion might have been gathered; as it was, the unexpected greeting of so many old friends was very delightful. Cripple Creek is impressing as a most busy collection of humanity as yet only trying to stay till a stake is made. Multitudes find legitimate employment in caring for the wants of other multitudes who are prospecting for gold or mining that already discovered. Still other multitudes are speculating in chances by purchasing shares in all sorts of claims, hoping that some of them may bring a fortune. Not a few are there because the crowd affords a place for mere gambling and wild speculating, even to lawlessness. The whole region for miles around is covered by several thicknesses of claims, all of which have some show of work, and some of which have already produced abundant evidence of rich deposits.

The Weather for February, 1896.

BY C. M. BRESEE, OBSERVER.

An exceptional month in an exceptional winter. The three winter months have been very similar, not a cold wave being recorded, and each of the three being much warmer than the average. But two Februaries have been warmer than that of 1896—those of 1880 and 1882. The rainfall is considerably below normal; but the ground just on top is in good condition, and wheat looks well. A good deal of plowing has been done during the month. The unusually warm weather the last week of the month caused tame grasses and wheat to start vigorously, and buds to swell, some maple trees in well sheltered spots bursting into bloom; but the colder weather just at the close of the month checked this premature awakening in time, and no damage will result.

Temperature.—The mean temperature was 36.09°,

which is 5.88° above the normal. There have been but two warmer Februaries on our record. The highest temperature was 81°, on the 26th; the lowest, 1°, on the 8th—a monthly range of 80°. The greatest daily range was 47°, on the 25th; the least, 3°, on the 12th. The mean daily range was 25°. The warmest day was the 26th, the mean temperature being 58°. The coldest day was the 7th, the mean temperature being 15.50°. The mean temperature at 7 A. M. was 27.14°; at 2 P. M., 47.21°; at 9 P. M. 35.00°. The mean of the maximum thermometer was 49.59°; of the minimum, 24.52; the mean of these two being 37.05°.

Barometer.—The mean pressure for the month was 28.814 inches, which is normal. The maximum was 29.264 inches, at 2 P. M. on the 16th; the minimum, 28.325 inches, at 7 A. M. on the 6th; monthly range, .939 inch. The mean at 7 A. M. was 28.834 inches; at 2 P. M., 28.797 inches; at 9 P. M., 28.811 inches.

Cloudiness.—The per cent of cloudiness was 30.46. This is 13.54 per cent below normal. The per cent at 7 A. M. was 32.26; at 2 P. M., 32.26; at 9 P. M., 25.86. Four days were entirely cloudy; two were two-thirds cloudy; three were one-half cloudy; five were one-third cloudy; two were one-sixth cloudy; thirteen were clear.

Precipitation.—The total precipitation was .56 inch. This is .50 inch below the normal. It fell in four storms. There was one snow storm, occurring on the 6th, when about 4 inches fell.

Wind.—The wind was from the north twenty-two times; south, seventeen times; southwest, fifteen times; northeast, eight times; southeast, eight times; east, six times; northwest, six times; and west, five times. The total run of wind for the month was 7216 miles, which is 85 miles above the mean. This gives a mean daily velocity of 248.83 miles, and a mean hourly velocity of 10.37 miles. The highest daily velocity was 523 miles, on the 22nd; the lowest, 88 miles, on the 2nd. The highest hourly velocity was 37 miles, from 3 to 4 P. M. on the 14th.

The following tables give comparisons with preceding Februaries:

February.	Number of Rains.	Rain in inches.	Prevailing Wind.	Mean Temperature.	Minimum Temperature.	Mean Barometer.	Minimum Barometer.
1858...	7	.46	...	25.49	71	-1	...
1859...	2	.61	49	32.25	63	-5	...
1860...	4	1.84	33	23.74	64	-6	...
1861...	0	.00	35	33.70	68	-9	...
1862...	1	.12	51	24.54	54	0	...
1863...	7	2.70	56	29.72	53	-4	...
1864...	4	2.41	...	34.68	58	13	...
1865...	3	2.01	46	31.70	57	-2	...
1866...	3	.18	32	29.39	69	-6	...
1867...	5	1.17	58	30.27	65	-4	28.74 29.25 28.30
1868...	0	.00	37	33.68	69	-3	28.69 29.10 28.10
1869...	6	2.48	49	35.86	71	3	...
1870...	4	.48	50	32.27	68	-10	...
1871...	2	.30	47	30.50	66	-4	...
1872...	5	1.67	59	25.28	48	0	28.78 29.24 28.10
1873...	4	.87	51	22.50	63	-10	28.65 29.40 28.14
1874...	2	.65	39	36.96	69	-4	28.81 29.32 28.26
1875...	5	.91	50	39.59	65	16	29.01 29.40 28.40
1876...	5	1.44	58	39.09	68	6	28.65 29.13 28.23
1877...	2	.75	38	21.50	58	-14	28.84 29.42 28.29
1878...	1	.05	32	36.78	67	4	28.57 29.09 28.02
1879...	3	2.75	52	22.55	47	-13	28.63 28.98 28.23
1880...	2	1.42	41	40.37	69	7	28.65 28.90 28.14
1881...	4	1.75	45	25.76	65	-17	28.88 29.40 28.09
1882...	3	.54	30	25.53	64	-10	29.15 29.80 28.47
1883...	5	.24	46	29.97	70	-5	28.95 29.48 28.44
1884...	5	.55	43	21.57	60	-18	28.58 28.96 28.06
1885...	4	.35	40	31.42	69	-7	28.94 29.48 28.08
1886...	6	1.18	58	27.84	72	-9	28.98 29.59 27.90
1887...	5	2.67	41	32.12	71	-4	29.05 29.75 28.44
1888...	3	.54	33	20.90	65	-10	29.15 29.80 28.47
1889...	2	.84	25	27.56	68	0	28.88 29.41 28.16
1890...	5	2.95	44	34.64	64	12	28.91 29.25 28.23
1891...	6	.89	31	26.69	55	-6	28.95 29.69 28.31
1892...	2	1.10	33	25.38	67	-11	28.99 29.58 28.22
1893...	7	1.39	50	24.89	71	-15	29.01 29.50 28.43

tors, Minnie Pincomb, Ellen Norton, Gertrude Lyman, Bessie Lock, Winifred Houghton.

February 28th.

President Peck called the Alpha Betas to order, and they all united in singing a hymn with T. L. Jones at the piano, after which Mr. McElroy led the Society in devotion. Birdie Dillie delivered a declamation entitled, "The Red River Voyage," in a pleasing manner. H. D. Orr, in his essay, traced the intellectual life from youth to old age. It was well written, and showed the young man's talents in that line. A piano solo by Miss Gilkerson was appreciated by the Society. Question, "Which has the greater influence, the W. C. T. U. or Y. M. C. A?" Mrs. Fulson and Gertrude Havens argued at length in favor of the W. C. T. U., and Josephine Wilder and Miss Monroe ably discussed the virtues of the Y. M. C. A. Many good points were presented by both sides, and the debate throughout was interesting. C. W. Shull presented an excellent number of the "Gleaner," and among the pieces were, "A Student's Life," "A Dream," "A Poem," and "Thoughts on Dependence, Independence, and Interdependence." After recess, Miss Reed gave a pretty piano solo. Roll-call. J. B. S. Norton presented the subject of charging admittance to the Society Annuals, and it was further discussed by the Society. The remainder of the time was very profitably spent under the head of unfinished and new business. E. L. P.

February 29th.

At 7:30 the Hamilton Society was called to order by Pres. Poole, each member in his usual activity and determination to make it an instructive and interesting session. H. H. Drake led the Society in prayer, and after listening to the reading of the minutes D. Rice took the oath necessary to become a genuine Hamilton. The program was opened by an interesting essay on "Our Character," by W. Greenfield. It furnished good advice to the members in saying that "man's character is his power." The debate, question, "Resolved, that the proposed 'Holiday' change is not to the best interests of all concerned," was debated affirmatively by Messrs. W. Poole and F. W. Bobbitt, who held that it would result in great dissatisfaction on the part of the students who had work in town on Saturday, which could not be obtained on Monday. C. M. Ginter and B. F. Durant presented the negative. They said that after the change from hard work all the week to rest on Sunday, the students would be better prepared to study on Monday, and for the coming week's work. The subject was an interesting one, as it had to do directly with our own personal interests. The question was decided in favor of the affirmative. Impersonation by H. W. Rogler, a comic solo, "Those Golden Slippers," was both pleasing and interesting in its effect. A well-rendered select reading by O. U. Vinaul was the next on the program. His subject, "The Art of Thinking," was well chosen, and the germ thought of it was that, "through thinking one gains power over the will." The discussion by A. Robinson was concerning the advisability of the government educating the Indians. He said, among other things, that the government would go to a great expense; that the benefit derived would not be sufficient, and that therefore the government is better off not to attempt it. C. S. Evans, assisted by J. Poole, furnished the Society with instrumental music. G. M. Green, with the help of C. Lyman and B. W. Green, amused the members with instrumental music on the guitars. They responded to a hearty encore. After recess M. R. Smith delivered an essay, "A bicycle ride to the Fort." He pronounced the trip as a very enjoyable one. The remainder of the session was spent in unfinished and new business, and extemporaneous talks which showed the usual activity of the members in discussing new subjects "off-hand." G. H. D.

February 29th.

The first regular session that the Webster Society ever held on February 29th was called to order by Vice-President Gibson. Roll call was followed by a prayer by L. W. Hayes, and the reading of the minutes. The program of the evening was opened by debate. The question, "Resolved, that the rising generation of Chinamen will be of more benefit than the rising generation of Indians," was ably presented on the affirmative side by C. H. Lehmkul and Z. D. E. Brown. They argued for the Chinamen on the ground that if they improve at the rate they have been improving the last few years, they will be among the most highly civilized nations on the globe. They are industrious, economical, possess high mechanical and inventive genius, and are so well fitted for the race of life that no other people can compete with them. They have a fine system of education, an excellent system of civil service, celebrated men in science, arts, finance, and oratory. Judging from the past, the future Chinaman will be a leading factor in the world in the next generation. On the other hand, the cruel blood-thirsty Indian, held in check as he is by the government, will never advance out of his present stage of savagery. S. Nichols and C. C. Nielson stood up bravely for the Indian. China has already seen her best days, and will not rise again, while the Indian is just rising from a state of savagery. In proportion to their number, Indians hold more important places in the world than Chinamen. Would the utterly unreliable Chinaman be trusted as a scout, as many thousands of Indians are? This is a very high position in regard to responsibility. Many great men have testified to the integrity, honesty, and ability of the Indian. They have their orators, poets, warriors, and financiers. Their habits, customs, superstitions, would bar the Chinese from any position in civilization but that of scavengers. The Society decided in favor of the negative. H. Haub gave an excellent declamation on "Honesty." L. W. Hayes favored the Society with an excellent instrumental solo which was heartily encored. B. R. Hull presented one of the best numbers of the Reporter

that the Society has listened to for some time. His motto was,

"Verily, verily, the Profs. say unto thee,
Stop studying on Sunday, or soon you'll be
Enrolled with those that failed to pass,
And now are in the B-flat Class."

After recess, W. T. Pope gave a good oration on "Cuba Should be Recognized." Landgraf gave a reading on "A Few Remarks on Pants." Mr. Rogler, of our brother society, favored us with one of his excellent violin solos, and was heartily encored. The session was finished by critic's report, extemporaneous speaking, unfinished and new business, and assignment of duties. J. B. N.

Sorghum Seed for Sale.

The Chemical Department has for sale improved sorghum seed of the several varieties which have proved to be the best in the past years' experiments. An account of these sorts of sorghum will be found in the bulletins of the Station. The principal kinds are Early Amber, Folger's Early, Medium Orange, Kansas Orange, Collier (undendebule), Colman (a cross of Orange and Amber), Denton (another cross). We have limited quantities of specially selected seed of most of the sorts. Address, G. H. FAILVER, Manhattan, Kansas.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The schools of Gypsum City have been closed on account of a small-pox epidemic.

The School Board of Topeka at their last meeting discarded the White course of text books in drawing for that of Thompson. The Thompson course is published by Ginn & Co.

The State Normal Monthly says that the change of the weekly holiday from Saturday to Monday is very satisfactory to the students and the Faculty, and that it will be placed so next year.

Professor Wilkinson of the State Normal School has been asked to discuss at the National Educational Association at Buffalo, next July, "The Practice School as Observed at Jena, Germany."

Miss Anna Scott, a student at the Central Normal College at Great Bend, has been notified of her appointment as clerk of the Venezuelan Commission. She is a niece of Justice Brewer, of the Supreme Court, Chairman of the Commission.

The State contest of the High School Oratorical Association will be held in Ottawa. The judges will be E. M. Hopkins, F. W. Colegrove, A. E. Jones, James L. Bristow, and H. N. Gaines. The date has not been definitely decided upon as yet.

The State contest is over, and Ferry L. Platt, of Washburn College, is the successful man. We hope that at the Inter-state contest, May 7, Mr. Platt may reduplicate his victory. The contest was more orderly than usual, but there is still room for improvement.

President Taylor attended the meeting of the department of superintendents of the N. E. A., at Jacksonville, Florida, on February 18-20. He went by way of Washington to meet with a committee from the State Normal Schools of the United States, to confer about means of improving and extending their work.—*State Normal Monthly*.

It is reported that Chancellor Snow, of the Kansas State University, received a telegram from a committee at the seat of Missouri's State University, asking if the Kansas University would admit 350 students from the Missouri institution. The Chancellor supposed the telegram to have been inspired by the recent rebellion at Columbia, and did not answer.

There came near being a riot at the State University last Saturday. A colored student was accused of stealing law books, whereupon the other colored students united to protect him. By Faculty interference the war between the negroes and whites was quelled after several of the combatants had been badly bruised. Being convicted, the Faculty expelled him, but he will fight both the Court and Faculty action.

Dr. F. W. Gunsaulus, the well-known Chicago divine and minister, has accepted the invitation to deliver the commencement day address at the Kansas University in June. This will take the place of the speeches usually made by students selected from the Senior Class on commencement, and is an innovation that the students have desired to have introduced for some years. The State Agricultural College has also discarded the usual speeches by graduates on commencement day, intending to ask some noted speaker to deliver an address. The chief reason for this change in the State educational institutions is the size of the graduating classes. The University graduates usually about 140, and the Agricultural College will this year graduate about 75.

Six young women of the Ottawa High School contested for oratorical honors Monday night, in the Rohrbaugh Auditorium. Miss Lotta Chamberlain of the Senior Class won first class, her subject being "The Barriers Removed." Miss Agnes Crane won second place with "Up to Date." A lively scrimmage was caused between University and High School boys by the latter flashing their colors during a recitation by Miss Norris of the University. When Miss Chamberlain entered her classroom yesterday morning, she was greeted by the college yell. Principal Wilcox immediately suspended the entire class of sixteen. The students claimed to have had permission from Superintendent Sinclair to yell, and say they will not return until the Principal apologizes.—*Kansas City Star*.

A Good Education Pays.

1. In dollars and cents. All testimony of statistics agrees in showing that educated laborers of all ranks have better work and better wages than the uneducated.

2. In influence and position. Careful estimates make it certain that the chances of promotion to places of trust and power among men are almost two hundred times as great to an educated man as to the uneducated man.

3. In usefulness. The bulk of good work in the world—discovery, invention, government, philanthropy, and religion—is brought about by those who learn to think by study.

4. In enjoyment. Our pleasures grow out of what we are ourselves more than from surroundings. A well-trained man sees, hears, and handles a great deal more of the world than an untrained one. All things do him more good, not so much because he owns them as because he understands them. He always has good things to think about.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan. All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popeno, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc., may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

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WHAT PER CENT OF THE FARM SHOULD BE PLANTED IN POTATOES?

BY HON. EDWIN TAYLOR,

Secretary of the State Horticultural Society.

(Lecture delivered in the Short Course for Farmers.)

THE answer to the above question depends entirely upon the conditions involved. The three important factors in the potato-man's problem are those of location, soil, and market. His location, he may change by removal; his soil, he may change by cultivation and manure; but the state of the market, he cannot affect. Neither can he forecast it with any such assurance as can be done with the market for other farm products. Accumulated supplies do not affect it; for, whatever the accumulation, it must perish in a single season; and the sale of one year's crop is not burdened by the hold-overs of the previous year. There is one feature of the case which at this time rises to the first importance; viz., the extent of the potato mania now raging. In every portion of the United States where potatoes will grow at all, there is an extraordinary development of their culture. Forty years ago, potatoes were grown in "patches"; now they are grown in fields and farms. Whole neighborhoods are given up to this tuber. Potato farmers are becoming like cotton planters for number. But while the cotton planter has almost the entire world in which to market his product, the potato farmer cannot export his crop. It is confined to home consumption. The capacity of the human stomach is limited; and the portion of the crop raised in this country which we can eat must soon be far short of the supply. It is so, even now. Millions of bushels of potatoes were not dug last fall. Millions of bushels that were dug and stored will go to the stock barn or the dump pile this spring. The momentum we have acquired in potato growing can hardly be checked in one season. There will probably be more potatoes planted this coming spring than ever before. Then, with a good crop, potatoes will be without money and without price. Some of our Kansas farmers were able to sell potatoes early last year at good prices. They should note the extraordinary combination which enabled them to do so. In Kentucky and Tennessee, there was a disastrous drought; in Arkansas, the floods were a great set-back to the potato crop; in Eastern Missouri and Western Illinois, including all the "American Bottoms," the early potatoes were cut off by an untimely frost. By the middle of August, the price of potatoes, here as elsewhere, was down to cost. Should it continue thus another year, there will be as precipitous an abandonment of potatoes as there was of sheep, when they were slaughtered by the thousands for their pelts.

The potato has great weight in proportion to its value. Compared with wheat or corn or flax or meat products, the chemical constituents of potatoes take a low place in respect to everything but water. If potatoes bore a price in proportion to their real value, they would stand but little cartage. As stock food, they have from one-third to one-fifth the value of corn, depending upon the manner of their feeding, and the animals to which fed. As food for humans, their consumption is governed by considerations not wholly economic. Some of us eat potatoes unduly, perhaps from associations of childhood or the old sod; while others eschew them from scruples based on prejudice or considerations with an alleged hygienic trend. The normal price of potatoes, I take to be somewhere near one-third the price of wheat. That is to say, wheat being thirty-six cents per bushel, potatoes would naturally be about twelve cents. To haul wheat or potatoes over country roads a distance of twelve miles, may be counted as costing five cents per bushel. So that, at the prices I have given, wheat twelve miles back from the depot would be worth thirty-one cents, and potatoes, seven cents—a falling off for cartage of one-seventh for wheat, against nearly one-half for potatoes. From this I conclude that the man who is twelve miles from the depot had better let potatoes alone entirely, except for the home market. In fact, that distance is prohibitive for fruits and vegetables, and largely so for grain. The farmer who has a twelve-mile haul should add to his business of production this extension thereof; viz., that of condensation. He should condense the hay and grass and grain of his farm into pork and beef or butter or cheese. It is a question with me whether most of our Kansas farmers, no matter how near a railroad they may be, can do

better than to confine their production to things which can be condensed, and then condense everything they produce. I know of nothing more profitable or picturesque on a Kansas farm than a bunch of cattle gathering in the prairie grass and corn, and converting them into beef.

Every farmer has two markets, in one of which he has an absolute monopoly; in the other he has to take his chance with the rest: they are the home market and the market of the world. The difference between these two markets is not always insisted upon in the books. Whatever the farmer sells to his own household, for instance, he pays no freight on, no insurance, no commission, no profits, no shrinkage, no collections, and those things make up more than half the cost of imported potatoes. Store potatoes, the farmer must pay for in money; and money he may be short of, or even devoid of. The potatoes he buys of himself, he pays for out of things which, like the wind that blows, he merely has to appropriate. For instance, he may count the land on which they grow as free of cost. An acre less in wheat at thirty-five cents per bushel, or an acre less in corn at seventeen cents per bushel, count in his favor—are money in his pocket, since they prevent that much certain loss. The labor involved in producing a sufficiency of potatoes for the home market would not be felt; for, though the farmer might work at something else while raising them, it is a certain thing that the average Kansas farmer does not make wages in producing his staple crops; but, wages or no wages, the average Kansas farmer has plenty of unused scraps of time every year out of which to grow a full supply of potatoes for the home market. He can put it whichever way he likes; but in producing this supply he has converted idle resources into food, and kept that much money at home.

When the farmer goes to sell his potatoes, he is confronted with a condition that he should seriously consider before going into potatoes at all. This condition is vexing and burdensome. If his stock is clean and well-assorted, he will find no adequate difference in price over dirty and mixed stock on sale in competition with his own. If he sell in car lots, he will find that the difference between the prices he will be offered, and those quoted in the ultimate market, will be too great for reasonable profit to the shipper; and if he attempts to correct this by himself seeking the market of final distribution, through a commission merchant, the risks he runs and the losses he often sustains are such as deter most farmers from consigning their products. It seems like an easy thing for the potato-growers of a neighborhood to get together and make common cause in negotiating sales. In practice, it has never worked well, so far as I know. The meannesses and limitations of human nature offer an impassable bar. If it could be done, the problem of marketing would be much simplified. This may be set down as a certain conclusion: that the more potatoes a man has to sell, the better prices he is likely to get, partly because he will give a more thorough study to the market if he has many than if he has only a few. And before he decides to plant any per cent of the farm whatever to potatoes, beyond the requirements of the family, he should figure not only on the comparative ease of marketing large crops, but should also take into consideration, that in order to raise potatoes economically, quite a considerable outlay is required for machinery. With cheap potatoes (and they may be expected to remain on a level with other farm crops), it is a matter for determination whether one is justified in making such a preparatory outlay. In figuring on the percentage of the Kansas farm to be planted in potatoes, I should say that particular attention should be paid to the potatoes for winter eating which we now import from other States. Most of the potatoes we raise are of early varieties grown in the early part of the season. During the hot summer and the long, dry autumn, these tubers lie in the soil, and every day they approach nearer to what is the ultimate end of all things—decay. During this time, the flavor goes out of them, and by winter they are such soggy, ill-tasting vegetables that most town people and a large portion of our country population eat northern or western potatoes instead, of which there are probably not less than two million bushels imported annually, for which we, on an average year, pay the foreigners of Colorado and Wisconsin not less than \$1,000,000. With irrigation, this outgo could be stopped. There is no crop raised upon which irrigation is used more

advantageously than potatoes. In those portions of the State where potatoes are uncertain without irrigation, there is the most attention paid to it. The irrigation plants already at work must be sufficient to produce all the potatoes used in the irrigated portions of the State, and in addition, provide enough late potatoes to supply the entire State of Kansas, to the exclusion of the foreign importations. I count as lost every dollar we pay to foreigners of Colorado or Wisconsin or Canada or Great Britain or Timbuctoo for things which we could ourselves make with the time and materials now going to waste.

Supposing that the farmer is situated near a railroad station, and that his soil is not unsuited to potato culture, and that he has determined to adopt potatoes into his routine as a permanent feature, then his reasonable inquiry may be, how many potatoes he shall plant. One of the conditions which I said will control the answer, turns upon the man's previous experience in raising potatoes. In my estimation, one should aim with potato culture, as with any other agricultural departure, to grow into it, not go into it. No instruction in such matters takes the place of actual contact—the placing of the fingers in the prints of the nails. Agricultural wisdom is like eloquence in the definition of Mr. Webster, "The learning of the schools cannot compass it." A book on any branch of farming, as my friend Miles Wingert happily expressed it, is of but little value to us, "unless we already have some hooks in place to hang its information on."

The other day I received a letter announcing that the writer was intending to plant, this season, seventy acres in potatoes, without having had any experience in potato growing. Unless he has extraordinary good fortune, or is possessed of extraordinary ability, he is on the road to certain loss. He could learn just as deep a lesson in potato growing from five acres as from seventy, and have only one-fourteenth the chance for losing money. There have been small fortunes made out of seventy acres of potatoes in past years. Such fortunes will not soon be duplicated. This man also writes me that he is prepared with an irrigation plant for irrigating his seventy-acre potato farm, and then asks if I know anything about the subject of irrigation, or if not, if I know anybody who does know. Unless my correspondent is fooling with me, he is certainly a reckless person to undertake to grow a large crop of which he knows nothing, by a method which is full of imperious details of which he is ignorant. The virtues of patience are supposed to belong to the farmer folk. Emerson says, "The farmer times himself to Nature, and acquires that lifelong patience which belongs to her." That was. It is now gone. The farmers of today—at least too many farmers—take their cue, not from Nature, but from something with quicker action. Apprenticeship is less common among us than headlong plunges where abundant preparation would make for speed.

Rev. Chas. H. Parkhurst says in the last number of the *Ladies' Home Journal*: "The most important thing a young man does is to get ready. The keynote lasts to the end of the tune, and the foundation reaches clear to the finial." Every word of that dictum applies with force to the potato man's proceedings. Every stroke of preparation made by him upon his land in advance, in the way of clearing it of trash, or of fall-plowing, or of providing a supply of crisp, vigorous seed of the best quality, and preparing himself with the tools best fitted for the crop, will be found potent and indispensable factors in producing satisfactory results. When our Kaw bottoms were first planted to potatoes, most of the land was newly cleared up, and its virgin fertility scarcely trenched upon. Then potatoes produced bountiful crops without much effort or care, though care and effort were always well rewarded. But now that the original richness is partially exhausted, I have been particularly struck with the apparently small matters, in my own experience and that of my neighbors, which have largely governed the output. I have, for instance, seen a gain of fifty to a hundred bushels to the acre made through planting seed from the far north instead of home-grown seed. I have seen a difference of one-half made on account of turnips or cabbage having been grown upon the land the previous fall; and likewise by having a crop of green oats plowed under about the time for severe frosts. The "finial" of the potato crop has its apex in the farmer's pocket, and the "foundation," which "reaches clear to the finial," is comprised in the land and seed. Upon those two antecedents, Mr. T. B. Terry is particularly insistent. His recipe for the land is a clover sod; his recipe for the seed is to have it fresh and unsprouted, if it has to be imported to secure that condition. I have had as good results

with second crop seed of my own growing as from seed grown in Dakota. There is a great temptation, when potatoes that you think will "do" are already in the cellar, to save the extra cost of seed stock which was in the full tide of growth right up to about the time it was dug, and which cannot be secured except as second crop in this latitude, or first crop from the far north. But to use the cheaper stock, is economy of the sort which saves at the spigot and wastes at the bung-hole. When the foundation for a crop has been thoroughly laid, then the most intense cultivation is justifiable and profitable. No man can make anything grow of himself. But if a crop has perfect vitality in the parent germs, and is supplied with abundant available nourishment in the soil, the growing will attend to itself if the husbandman will keep the soil loose and clean. But where vitality or nourishment is deficient, then the best of culture is largely put forth in vain, as pearls thrown to swine.

Margaret Fuller is said to have said, "Man would be perfect if he would persist;" and no man should attempt to plant any large per cent of his farm in potatoes unless he means to persist in their culture. When I began raising potatoes, I called upon a firm of gardeners in St. Louis to learn of them about sweet potato-growing. They were doing excellently well, but they apologized for not being able to answer one of my questions by saying they had been in the business only seven years, and had not mastered it. I don't mean to intimate that a man should expect to be in a line of agriculture for seven years before it became self-supporting; but whether it be potatoes or swine or cattle-feeding or the dairy or orcharding or small fruit, if the man who follows any one of those particulars keeps his eyes open and studies his lesson, and does not find that even when seven years are passed he is still not prepared to graduate in it, he will contradict common observation and experience; and it is certain that his second period of seven years will be of more value to him than the first.

It would be worth millions to Kansas if her fly-by-night farmers could be induced to emulate the postage stamp, and stick to something till it gets there. The light way in which so many of our countrymen speak of "going into" this or that, is to me certain evidence of predestined failure; for, whatever one "goes into" without examination or sense of responsibility, he is apt to go out of without hesitation or sense of defeat. To my mind, a change in the established farm procedure is a serious thing, not to be undertaken without due consideration. While it is true that almost any location is pre-eminently fitted for some line of farming, it is also true that not many locations are fitted to many lines, and the man whose repertory is extensive may depend upon it that some of his interests are going against the grain of his conditions. I wouldn't have it quite as difficult to change in farming as to secure a divorce, nor do I attach quite so much solemnity to deciding upon a line of farming as to choosing a wife; but I would have neither of them lightly taken up, nor put lightly down. I would have the progressive farmer to not confine his figures to what he has done; what he thinks of doing, of "going into," needs their illumination still more. The science of accounts on the farm reaches far beyond the actual; it reaches to the future and the prospective, and should be resorted to as a touchstone for every contemplated departure. In order to make it possible to figure intelligently, it is essential that we be not overwhelmed with "sums." Many farmers have such a confusion of little interests and petty details which dovetail into each other in such endless confusion that it is impossible to draw order out of the chaos. In such cases, a pre-requisite for success is to secure continuity of action by eliminating the inconsequential and inharmonious issues.

Just how restricted the routine of a farmer had best be, is another of those questions which depend for their answer very largely upon the man himself, and his environment. Much discussion is had in our farm papers upon the subject of mixed farming versus agricultural specialties. One writer contends that the farmer should have a little of everything in his curriculum, while another is equally strenuous for the "single idea." When I was younger, I felt certain the latter was right. I have modified my views somewhat, to the extent of concluding that, while most farming is too much "mixed," the nature of husbandry is such that a strictly one-crop system is not advantageous under normal conditions. I used to call myself a "potato specialist," but it now appears plain to me that while potatoes may be the leading feature on a farm, they cannot long remain its exclusive feature, and continue profitable. The practice of Mr. T. B. Terry, of Huron, Ohio, probably the best known and most quoted farmer in America,

commends itself to me. He makes potatoes his leading money crop. He uniformly plants them on clover sod. He sows wheat on the potato ground, and sows clover on the wheat in the spring. The clover sod resulting is again turned under for potatoes. He raises no corn, no oats, no barley, no flax, no broom corn, no chickens, no hogs. His only stock is his work-horses and a few cows. He is not a specialist, and yet he is. His "specialty" is not a point, but a section of an arc; not a solo, but a program; not a single crop, but a definite combination of crops.

The further negative answer to the question I have asked will be that the farmer should plant no more potatoes than, with a fair season, he can make yield him largely above the average crop for the State. The average for the State is in round numbers 100 bushels of potatoes to the acre. Whatever the average crop may be, it will, with normal conditions, about represent the normal cost of production. Beyond this line lie all the profits. Where advances beyond this line are not precluded by natural conditions, they are the sure response to care, thorough culture, forethought, and manure. The fixed charges for the potato crop are rent, cost of seed, and the minimum amount of tillage. Counting rent \$5.00 per acre, seed \$5.00, and the minimum labor charge for planting and cultivating \$3.00, we have a fixed cost of \$13.00 per acre. The maximum labor cost in producing a crop of potatoes is probably not more than double the minimum, or \$6.00. The returns for that \$3.00 of extra cultivation are commonly in excess of any other \$3.00 that goes into the crop.

Some alluvial soils may be so favored as to fertility, and so suitable as to texture, that the potato planter need have no care with them; but in general, success with potatoes will largely turn upon the previous condition of the field or its recent fertilization. The subject of fertilizers, I don't mean to touch upon any further than to suggest that if we were all compelled to keep a careful account with whatever fertilizers we apply, whether commercial manures, green manuring, or barnyard dressing, it would serve, no doubt, to

"Frae mony a blunder free us
And foolish notion."

Whatever pays in farming is good practice; whatever don't pay is bad. We owe much of guidance and suggestion to the professors; but one of the most important members of all the faculty, the professor of accounts, we have never given his proper prominence in our counsels.

Although agriculture is the most peaceful of pursuits, I like to think of every season's operations on the farm as a campaign against fortune, wherein the profits, if there are any, are the spoils of war; and the losses, if so be we must have them, the disasters of defeat. The general scheme of the maneuvers with stock and crops, I like to compare to the plans, I am told, a successful general always prepares in advance; and the daily operations in the field as evolutions and tactics contributory to the strategic end in view. Whenever a bunch of hogs or cattle is marketed, I call it an assault upon the enemy's works. With every car of grain or potatoes marketed, I say to myself, with the hero of Buena Vista, "A little more grape, Captain Bragg." The resemblance may seem altogether fanciful, but in one respect, at least, the parallel holds good. As every commander has his plan of operations, so every prudent farmer has his plan. In both the agricultural and the military campaign, there is something taken as a main issue. Alike in the field of Mars and the field of Ceres, everything is, or should be, subsidiary to the main action. There will be secondary movements in both cases, but the decisive movements are those of the central column. There may be farmers so situated that they can let the potato crop occupy the center of their position, but I am going to guess that that line of defense will be found less strong in the future than in the past; and where the reserves are weak, I look to see many of them routed and driven from the field.

But when the farm is at the same time a place of production and also what miners call a "concentrating works" wherein the rude products are condensed into meat or butter, there potatoes can always be raised advantageously, provided the length of the wagon-haul, or freight rate, or want of water does not forbid it. On most Eastern Kansas farms, there is no such prohibition. On most farms in Eastern Kansas, though the soil may not be ideal for potatoes, yet, through the application of the refuse of the beef factory or butter works therewith connected, it can be rendered excellently serviceable. Whatever portion of ground that refuse will heavily cover, year by year, is a partial answer to the question, "What percentage of the farm should be planted in potatoes?"

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.

1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

J. J. Fryhofer, Fourth-year, spent Sunday at home on Fancy Creek.

Leah Reyburn, Second-year, is called to Leavenworth by the death of her mother.

H. M. Thomas, Second-year, attended the wedding of a sister in Osage County, on Monday.

Ruth, Grace, and Tacy Stokes entertained the Epworth League at their home, last evening.

Mrs. Rhoades and Mrs. Uhl, of Gardner, spent several days this week visiting their sons in College.

R. W. Clothier, Third-year, was kept from classes several days this week, to attend a sick brother at home in Wabaunsee County.

Mrs. I. D. Newell called at College on Monday to show Miss Little, a teacher of Western Kansas, all that could be seen in an hour's stay.

Mrs. Winnie and Mrs. Hoadley were shown many new and strange things at College yesterday, by Mrs. Mayme Houghton-Brock, '91.

Miss Rupp has taken rooms with Mrs. Koller, on Houston street. The change is made necessary by the death of Mrs. Kimble, with whom Miss Rupp had apartments.

Inez Palmer, Fourth-year, appeared in classes on Wednesday for the first time in three weeks. Her recovery from a severe attack of grip is due in a great measure to the careful nursing of her sister Elva.

Dr. Kinsley, one of the leading veterinarians of Topeka, has presented to the Veterinary Department fifty specimens of abnormal and diseased horses' teeth. The collection is an interesting and valuable addition to the Veterinary Museum.

Mr. F. R. French, of Lakin, formerly publisher of the *Advocate* of that place, spent several days at College this week visiting his son, passing a few hours quite pleasantly between times renewing acquaintance with Mr. William Knostman, whom he knew in Kentucky.

Mrs. Kedzie on Wednesday gave to the Cooking Class the first of a series of demonstration lectures which will fill the rest of the term. The first lecture, on "Breakfast Breads," was illustrated by the preparation and baking of three kinds of bread in the brief time allowed by the short class hour, with a manipulation of gelatine between times.

In its report of the Cherryvale Farmers' Institute, the *Independence Tribune* has this: "Prof. S. C. Mason, of the Agricultural College presented 'Plant Propagation' in all its phases, and for one hour showed by charts and drawings how all the lines of budding, grafting, and layering are successfully carried out. Secretary I. D. Graham's paper on 'Work Wins,' covered the whole range of production and invention, embodying some excellent suggestions as to a thorough preparation for every special line of thought or labor, and showed that success depends upon it."

The Farmers' Institute held at Newton, March 4th and 5th, was a success in every respect. A hundred or more of farmers were in attendance during the day sessions, many coming from remote points of Harvey County. The evening session was more largely attended by the townspeople, and Music Hall was crowded to overflowing by an audience drawn by the double attraction of Chancellor Snow's lecture upon insects, and stereopticon exhibit of views of the College. The papers presented were nearly all of a high order of merit, and the interest and acuteness with which they were discussed speaks well for the intelligence of the farmers of the region. The excellent parliamentary capacity of Senator Danner, as President of the Institute, was constantly required to keep discussions within the limits made necessary by time, and to see that the opportunity for speaking was fairly apportioned. The College was represented by Mr. F. C. Burtt, who presented "The Value of Soy Beans to the General Farmer," and Prof. Willard, who went as substitute for Secy. Graham in showing the lantern slides of College scenes.

GRADUATES AND FORMER STUDENTS.

Daisy Day, '95, assists in the Secretary's office during the illness of Miss Clemons.

Nora Fryhofer, '95, is here as guest of the Websters. She will come again for Commencement.

W. P. Tucker, '92, is here for a short visit. He plans to soon again engage in the newspaper business.

Married, R. C. Harner [Third-year in 1891-2] and Martha Hainey, of Green, on February 23rd.—*Riley Regent*.

Gertrude Coburn, '91, has just been unanimously elected to the chair of Domestic Economy in the Iowa Agricultural College, at Ames, with a salary of \$1200. Miss Coburn was for two years a teacher of domestic economy in the Stout Manual Training School at Menomonie, Wis., and her good work there

is a guaranty that the Iowa folks have made no mistake in calling her to their institution.

Kate Pierce, Third-year, in 1893-4, is teaching at Carthage, Ill., the home of her sister, Mary Pierce-Van Zile.

Albert Dickens, '93, has an article in the *Western School Journal*, upon Improvement of School-house Grounds.

Clyde Caldwell [First-year in 1893-4] is now working as a newsboy between San Antonio and El Paso, Texas.—*Scandia Republic*.

S. H. Creager, '95, C. F. Doane, '96, and A. E. Ridenour, '96, will take the next civil service examination for live-stock inspectors.

Ethel Patten, '95, leaves the home folks to shift for themselves while she visits College friends and attends the Webster Exhibition.

Sherman Coe, student in 1890-91, was a visitor one day this week. He is one of the great army of commercial travelers, covering Kansas territory.

H. F. Roberts, Third-year in 1888, has in the January and February numbers of *Agora* an earnest and exhaustive article upon "Prof. Van Holst and the Monroe Doctrine."

C. D. Adams, '95, is teaching in Osawikie this winter, and has developed a healthy interest among his pupils in his Alma Mater, as the considerable number of requests for catalogues from them will show.

Mrs. Ardella Blanche Tomson, wife of F. D. Tomson, student in 1893-4, died on Monday. Her death is mourned by a large circle of friends made during her short residence here, who extend to the bereaved young husband their heartfelt sympathy.

Grant Selby, student in 1879-80, for many years past in the employ of the Rock Island railroad as inspector of stations and uniforms, has severed his connection with the road to enter the employ of the Crocker Uniform Co. of Chicago. His present address is 271 Madison street.

Lieut. Frank W. Coe, Third-year in 1887-8, has declined the offer of an assistant professorship in mathematics at West Point that he may remain with his regiment, the First Artillery, at Governor's Island, New York harbor. Lieut. Coe was married, in December, to Miss Anne Chamberlaine, of Norfolk, Virginia.

From Minnie Reed, '86, is received the Annual Report of Schools of San Diego, Calif. Among the teachers of the High School appear the names of Lillie B. Bridgeman, '86, "Science," with Minnie Reed "Assistant Science." A view of the Chemistry Class shows Miss Bridgeman "at home" in the professional chair.

D. W. Working, '88, Secretary of Colorado Agricultural College, writes that their Board of Regents has elected J. E. Payne, '87, Superintendent of the College Rainbelt Station at Cheyenne Wells, to begin work April 1st. Mr. Payne's special study along this and kindred lines fits him for the work, and under his management the Station ought to accomplish its objects.

W. C. Moore, '88, prints a page "write up" of the Junction City Schools in his *Union* which is illustrated by portraits of all the teachers. The abilities of a classmate are recognized in the following paragraph: "Miss Bertha H. Bacheller is a native of Norwich, Chenango Co., New York. She attended the common schools of both New York and Kansas. Miss Bacheller is a graduate of the Kansas State Agricultural College, took post-graduate work for two years, and has since been doing special scientific work under direction of the College. She has taken the summer course at the State Normal, and holds a State Teachers' Certificate with a grade of 98—one of the two highest among fifty applicants. Besides this preparation, Miss Bacheller has been taking the resident literary course furnished by the Oberlin University of Ohio. While she has never taught in county normals, she has attended many of the best county institutes in the State. In all, Miss Bacheller has taught ten years, two of which have been in our High School as Science teacher. Two years were in country schools, one year in primary in Onaga, Pottawatomie County; one year in high school and grammar grade work at Sterling, Kansas; two years in grades and high school at Lyons, Kansas; and two years teaching in the State Agricultural College. Besides being a teacher, Miss Bacheller is a student, and is fitting herself for higher work in her chosen profession."

Experiments With Oats.

Such is the title of Bulletin No. 40, which summarizes results as follows:

"The results of experiments with fall plowing, spring plowing, and not plowing land are that the averages for the same years show a gain in favor of spring plowing. It is a question, however, if this gain is sufficient compensation to pay for plowing the ground.

"March seeding has given a better yield than later seedings.

"Averages for five years show an increase of two bushels per acre in favor of treating oats with hot water for smut. It is evident that the more smut in the seed oats the more marked will be the effect of the treatment.

"By separating oats as they come from the thresher into two grades, light and heavy, by means of a fanning mill, the averages for five years show a yield of two bushels per acre in favor of the heavy grade over the light, and one bushel in favor of the heavy grade over oats not fanned.

"As to the methods of seeding, the averages for five years are in favor of the shoe drill with press

wheels; second, the shoe drill without press wheels; third, the hoe drill; fourth, broadcast.

Experiments with different quantities of seed, varying from one to four bushels per acre, indicate from five years' averages that two and a half bushels per acre are better than a less quantity, and in some years the heaviest yields were obtained from four bushels of seed to the acre.

"An experiment in '94 showed a loss of 32.30 per cent in weight of grain by cutting the oats when in the dough, and a loss of 20.06 per cent in weight of grain by cutting the oats in the hard dough as compared to cutting when fully ripe.

"As to a comparison of varieties, an average of five years places the following six varieties at the head of the list in the order named: Northwestern White, Belgian, Pedigree Red Rust Proof, Board of Trade, Golden Sheaf, and Brown Winter."

The Second Lecture on Money.

In the lecture on yesterday Prof. Will discussed the history of United States banks and Treasury notes, covering the period from the close of the Revolution to the beginning of the Civil War.

Money may be either commodity or credit money. Of the first kind are gold and silver, which can be sold like other commodities; while credit money is valuable only as money. Money, again, may be private or public; and a historical study, while it may not show the merits or demerits of either system, may yet indicate tendencies, whether toward private or public control of the circulating medium. During the Revolution there was public control of the money, but after the adoption of the Constitution the money system was in the hands of United States and State banks. The Continental paper money proved a success in that by means of it the war was fought and won; while it was a failure in as much as it depreciated.

The Constitution forbade both States and individuals to emit either commodity or credit money; and during the period examined in the lecture the weight of opinion was strongly against the nation's emitting paper money.

Hamilton, who, under Washington, took charge of the Government Treasury, was strongly in favor of the National bank. Arguments for the bank were that it was necessary. It was to furnish national currency to be backed by the Government, and receivable for all public dues. It was to be a depository for public money, and to assist the Government in loans. The life of the bank was twenty years, and when a new charter was applied for, it was strongly opposed on the grounds that the bank was unconstitutional, unnecessary, and a dangerous power, since most of the shares were held abroad. The charter was refused. For five years the State banks did the financial business of the country, being used by the Government as depositories, and issuing freely paper which had no specie basis. Finally, they went down everywhere but in New England, carrying with them the Government deposits. The banks, after failing, continued to issue paper which circulated only in the home States and at a discount.

After this experience, opponents of the old bank favored a new one, which was chartered in 1816 for twenty years. Its privileges were the same as those of the first United States bank, with a larger capital. For its privileges, the bank paid a bonus of one and a half million dollars. This was the institution against which Jackson made his fight. The bank was strongly supported by both houses of Congress. A bill to renew the charter was passed in 1832, just before election, but was vetoed by Jackson. The bank men carried the war into the campaign, endeavoring to elect a president favorable to the renewal of its charter. Jackson, however, was re-elected by a large majority, and he now removed the public deposits from the United States bank to certain so-called "pet banks." A panic followed, though whether caused by Jackson or the bank is uncertain. These "pet banks" afterward failed, carrying down with them, for the second time, the public deposits.

Van Buren, following Jackson, proposed that the United States should take charge of its own money in the future. The Sub-Treasury scheme proposed by him for this purpose was finally established under Tyler, and still continues.

During this period, in times of emergency, the Government issued Treasury notes. These were not money, but loans or notes given in exchange for money. They were purposely disqualified for circulation by being made of large denominations, interest bearing, and requiring endorsement; nor were they made legal tender. These notes were made receivable for taxes and all public dues; this fact, together with the disposition to lower the denomination and diminish the interest rate, tended to make of them a circulating medium, which, unlike the Continental currency, retained for the most part its value. These are the notes which, under pressure of the Civil War, were to develop into the full legal tender "Greenback."

COLLEGE ORGANIZATIONS.

Student Editors.—May Bowen, J. B. S. Norton, John Poole.

Alpha Beta Society.—President, A. C. Peck; Vice-President, Grace Secret; Recording Secretary, E. A. Powell; Corresponding Secretary, Etta Ridenour; Treasurer, Guy Hulett; Critic, Inez Palmer; Marshal, W. H. Ellis; Board of Directors, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, E. H. Webster; Vice-President, E. G. Gibson; Recording Secretary, W. J. Rhoades; Corresponding Secretary, J. B. Norton; Treasurer, E. E. Butterfield; Critic, T. M. Robertson; Marshal, H. L. V. Uhl; Board of Directors, F. H. Myer, J. E. Trembley, C. H. Stokey, J. H. Bower, T. W. Allison.

Hamilton Society.—President, John Poole; Vice-President, G. C. Hall; Recording Secretary, A. L. Frowe; Corresponding Secretary, L. A. Fitz; Treasurer, G. G. Menke; Critic, C. F. Doane;

Marshal, W. J. Goode; Board of Directors, J. W. Holland, S. J. Adams, A. W. Staver, C. E. Copeland, A. J. Pottorf.

Ionian Society.—President, Clara Newell; Vice-President, Gertrude Lyman; Recording Secretary, Minnie Spohr; Corresponding Secretary, Olive Long; Treasurer, Mary Norton; Critic, Miriam Swingle; Marshal, Hattie Goode; Board of Directors, Minnie Pincomb, Ellen Norton, Gertrude Lyman, Bessie Lock, Winifred Houghton.

March 6th.

The Alpha Beta Society was called to order by President Peck. First was congregational singing, followed with prayer by Gertie Havens. Miss Pierce delivered a declamation entitled "Now," in a very pleasing manner. Miss Streeter read a short selection. Mr. Hulett gave an impersonation of a "Woman Suing for a Divorce." Next followed a mandolin and guitar duet by Messrs. E. A. Powell and A. E. Ridenour. Debate, "Has the presence of fiction in the modern world been a good rather than an evil?" The affirmative was presented by W. E. Thackrey and Miss Otie Hiatt, and the negative by Miss Mary Finley and Mr. Way, in a very able manner, the first-years doing credit to the Society and themselves. Mr. Owen next favored the Society with a vocal solo, and responded with an encore entitled "The school girl." Mr. Crowl presented the Gleaner, motto, "Decide at once." A few of the selections were, "New Beginnings," "At Drill," "Etiquette," "Cure for Love," and others, enlivened by many funny and witty sayings. After recess, Tom Jones favored the Society with a piano solo. Roll call was followed by miscellaneous business, carried on in the usual lively manner.

H. A. P.

March 7th.

A room full of eager Hamiltons greeted President Poole as he called the Society to order. G. W. Finley led in devotion. As Mr. Goode, the former Marshal, had left college, the Society proceeded to elect a Marshal for the remainder of the term. Several were nominated, and F. O. Woestemeyer was the successful candidate. Mr. Harvey took the oath which admitted him to full membership in the Hamilton Society. The program of the evening was opened by a comic declamation from S. L. Heskett. This was followed by an essay from R. W. DeArmond entitled, "A Spelling Match." It was an account of the various incidents occurring on a trip to a country spelling match. E. Langhart recited the ludicrous experience of a passenger and his mother-in-law on a snow-bound train. The selection was funny in the true sense of the word, and the Society was convulsed with laughter. Mr. Langhart responded to a hearty encore with another selection entitled, "The Ladder of Fame." Wm. Anderson's oration, "A Forgotten Patriot," was a brief biography of Thomas Paine, the noted infidel. A. L. Frowe had an excellent oration on "Discontent." He referred to discontent, as that which caused people to become dissatisfied with their condition, and inspired them to action. It was discontent that caused Livingstone and Stanley to go to Africa, and induced Prof. Dyche to undertake his Arctic trip. A good edition of the Recorder was presented by its editor, C. B. Ingman. Its motto, "Just do it yourself, and don't talk about it," contained a bit of advice that might be taken to advantage by many. Some of the pieces were "Editorial," "Friday Afternoon Lectures," "Fourth Years," "Science in the Library," "Some Students' Musings," "Locals," "University vs Ingersoll," "Dreams of College Life." E. M. Haise closed the program with select reading. Under unfinished business, a proposed amendment caused considerable discussion, and various committee reports were accepted. New business occupied the time until 10:30, when the Society adjourned to meet in two weeks.

L. A. F.

March 7th.

About two-thirds of the one hundred members of the Webster Society answered to roll-call, which followed President Webster's call for order. After prayer by J. B. Norton, and the reading of the minutes of the last meeting, the program was opened by debate upon the following question: "Should the United States Senators be elected by a direct vote of the people?" C. D. Lechner and G. G. McDowell argued for the affirmative. They claimed that this would do away with a great deal of the bribery and scheming. The Senators would be responsible to the people for their actions. The whole people would be more apt to choose a good Senator than would their representatives in the State Legislature. J. C. Bolton and F. C. Sweet spoke for the present system. Bribery is not so common, after all, and would be carried on under the new system as much as at present. The Senators are to represent the States and not the people, and should be elected by the State Legislature. The Society decided that the affirmative had produced the best argument. W. J. Rhoades then gave an excellent piano solo. Frank Shelton read an essay on one of his trips in Australia, which was highly appreciated by the Society. H. N. Rhodes' reading on "Jenkins goes to a picnic," which was of a humorous nature, brought forth merited applause. C. H. Stokely delivered an oration on "Johann Gutenberg," the inventor of printing. The last number of the program was a song, "Jonathan's Tea Party," which was sung to the tune of "Yankee Doodle" by chorus of First-years, who responded to a hearty encore. The remainder of the evening was spent in business.

J. B. N.

March 6th.

The Ionian hall was filled to overflowing when Vice-President Lyman called the Society to order. The Society joined in singing America, with May Bowen at the piano. Minnie Pincomb led in prayer. Roll-call, by the secretary, showed but few absences. Under initiation of new members, Bessie Hall was initiated. The program of the day was opened by a vocal solo by Mrs. Ione Earle, which was highly appreciated by the Society. Mrs. Earle responded to a hearty encore. The next on the program was a debate, question, "Resolved, that the change of our

holiday from Saturday to Monday is for the best." The affirmative was argued by Mary Norton and Bonny Adams, and the negative, by Jeannette Perry and Miriam Swingle. The question, being, as it is, one of great interest to all of us, was very well presented, both sides bringing up ideas of importance and interest. Tacy Stokes rendered a piano solo. A most interesting and well-written edition of the "Oracle" was presented by its editor, Jeannette Carpenter. Instrumental solo by May Bowen. The program was closed with a declamation by Rosa Lee, after which the Society was entertained by a few remarks by Dr. Mayo. The usual order of business was taken up, and under election of officers, Tacy Stokes was elected Marshal, to take the place of Harriet Goode. After some time spent in the transaction of unfinished and new business, and assignment of duties, the Society adjourned.

O. A. L.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The Inter-State Oratorical contest will be held at Topeka, May 7th, 1896.

During the severe illness of Dr. Colegrove, of Ottawa University, Prof. M. L. Ward is acting in the capacity of President.

Mr. A. S. Dunstan, First Assistant in Physics to Prof. L. I. Blake at Kansas University, has been called to an assistantship in physics at the University of Chicago.

The material for this year's edition of the Kansas University catalogue went to the State Printer last week. It is expected the catalogue will be out by the last of the month.

H. Q. Banta, '95, who represented Ottawa University in the State contest two years ago, is now Professor of History and Elocution in Lake Charles College, Lake Charles, La.

The Science Circle of Kansas Wesleyan College is wrestling with the problem, "How may the Rainfall and Vegetation of Western Kansas be improved?" We hope the boys will find a solution.

Prof. H. C. Merrill, of the Department of History and Economics, and Prof. J. S. Gorsline, of the Department of Science, of Ottawa University, have tendered their resignations, to take effect at the close of the present school year.

The students of Washburn College a short time ago rendered "Minna Van Barnhalm," a German drama, by Gotthold Ephraim Lessing, in the original language. Miss A. H. Adams, the teacher of modern languages, played the role of Francisca. The costuming was done by Kansas City firms.

The last number of the Junction City Union gives the schools of that city a grand "write up," with views of the school buildings and "half-tones" of the Faculty. The Junction City schools are among the very best in the State. They never suffered from the establishment of cheap colleges or business schools as those of so many other Kansas towns did.

On Thursday evening, the 20th of last month, a special car over the Santa Fe took a large delegation of Leavenworth teachers to visit the Topeka schools. The teachers of Leavenworth have always practiced the theory that if there is anything better in school methods and practice than they enjoyed, the fact could not be discovered too soon. In accordance with this declaration of principles, the Topeka trip was undertaken.—Leavenworth Hatchet.

Two young women, Marion Higgins, of Ottawa, and Lois Borland, of Scranton, have been suspended for one week from the State Normal School, and Fred Borland for four weeks, and the three, together with Misses Ollie Evans and Laura Gardner, of Scranton, have been forbidden to attend any society meetings at the Normal during the entire term. These students were implicated in attempting to hang out a banner in Albert Taylor Hall during the prize contest and debate.

The Tragedy of the Incompetent.

Some one has said that the tragedy of today is not the tragedy of the criminal, but of the incompetent; and not of the absolutely incompetent, but of the relatively incompetent. It is the tragedy of the man who has the best intentions and the best character and a fair equipment, and who cannot do the thing he starts to do in the best possible way. Society is crowded with half-equipped workers; with men and women who are honest and earnest, and not incapable, but who are not up to the level of the very best work. It is amazing, in view of the immense number of those who are seeking for positions, how few persons there are competent to fill any particular position. To fill a position of any importance requires often most diligent searching in many directions. There is a host of thoroughly well-equipped people, but there seem to be, at the moment when they are needed, few perfectly equipped persons. When one has a piece of work to be done, it is easy to get it fairly well done, but it is extremely difficult to get it thoroughly well done. This is true of all grades of labor.

The really competent men and women who go out for daily work in any community can generally be counted on the fingers of one hand. The rest are partially competent and partially trustworthy. They will come if it suits them, or if the weather is propitious, or if they have nothing else to do, and when they do come they work with a fair degree of skill and industry; but the man or woman who goes despite the weather, and who works with the utmost economy of time and

the utmost productiveness, is a very rare person in any locality. If a leading pulpit is vacant, it is astonishing how few persons thoroughly equipped for it can be found at the moment. If a Board of Trustees are looking for the President of a college, among the host of educated men it is amazing how very few names suggest themselves. In spite of the terrible need of work which weighs upon the masses of men, and in spite of the superior processes of education which are offered to the fortunate few, it remains true that society is filled with incapable or only partially trained people, and that when the thoroughly trained man or woman, perfectly fitted to do a specific thing in a superior way, is needed, a candle must be lighted and a long search begun. The great lesson to be read to boys and girls today is the need of some kind of absolute competency, some kind of ultimate superiority.

—The Outlook.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

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All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

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Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

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BEAUTIFYING THE HOME PLACE.

BY PROF. S. C. MASON.

AS planting time draws near, every owner of a place not yet beautified by trees and shrubs should resolve not to let this season go by without making a beginning at this work. Every farmer who has not heretofore found room enough on his quarter-section for his woodpile, wagons, plows, and a varied though not a picturesque collection of broken down farm machinery, but has felt obliged, out of sheer land poverty, to stack them out in the road, should record a vow that he will sin against his country and the neighborhood no more, but will remove these unsightly objects from the highway to a secluded spot on his own land. Then let him perform this vow before he begins to plow for corn. The next step should be to clear off a space that can be dignified by the name of a front yard, and after taking counsel with the good wife and the boys and girls, make out a list of trees and shrubs that are to be set out this spring. This list need not be an elaborate one, nor need it include any very expensive material.

The materials that may be made use of in planting a yard are trees, both evergreen and deciduous; shrubs and vines; flowers and herbaceous plants; and last, but by no means least, grass. Nothing in the list goes farther toward making a home-like place than a smooth, grassy yard.

So, while we should have plenty of trees for beauty, for shelter and shade; and groups of shrubs, handsome in leaf as well as flower, let us arrange these in a way that will leave pretty open stretches of grass alone. The yard that is about evenly set over with trees and shrubs according to the plans one would use in planting a corn field or an orchard, will never present the attractive appearance that it might if the same materials were grouped, leaving larger open spaces here and there. If groups are planned so as to screen from the road or house any unsightly objects about the place, the beauty of the whole is greatly improved.

On the other hand, the size to which trees will grow should be taken into account, and planting where they will soon obstruct a path or cut off the finest view from the sitting room windows should be avoided. A path or drive bordered with little cedars or pines may look very pretty for a year or two, but when they grow so broad that one can scarcely pass between them, the effect is quite the reverse.

I recall an instance where four pines were set, two on each side of a path leading from the gate to the door. The place contained one town lot, fifty feet wide. The house stood about twenty feet from the street. If these four pines had lived they would have filled that entire front yard, shutting up the walk and covering the house.

It is a good rule to plant the larger, taller-growing trees around the outside of the yard and in the background. The taller, coarser-growing shrubs should be carried to the sides and background, appearing against the trees. A fine tree or two, trimmed high, will often look well in front of the house, and the lower-growing and more attractive shrubs should appear here, or in front of groups of coarser ones. This border planting of trees and shrubs should not be too regular and even, but may advance here into the yard and there recede, forming a sheltered nook.

Do not make the paths and drive-ways too prominent features of the yard, and never throw in meaningless, meandering curves under the impression that they are beautiful. A walk should never be introduced as an ornamental feature in a yard, but for the one purpose of enabling people to get from somewhere to somewhere.

The easiest and most natural way of accomplishing this is the best one. We do not open up a straight path without a special effort, consequently it seems easiest to approach the door by easy, graceful curves, but these curves should never lead us away from the object simply for the sake of the curves.

Getting a good stand of grass is often a very difficult thing in a country lacking rain. In central and Western Kansas, the natural buffalo grass makes a prettier yard than can be hoped for from the cultivated grasses, without plenty of water. It is often the case that in seeding to Kentucky blue grass or other tame grasses not enough work is put upon the ground. Thorough preparation, the removal of all trash, careful plowing, grading, harrowing, rolling, till a fine, even soil is obtained, will repay all the

labor. Seeding down a lawn where the last year's potato ridges are still visible can hardly be regarded as beautifying a yard. A stand of blue grass can often be obtained by setting out little blocks of sod, when it is difficult to get a good catch from seed.

We will turn from grass to trees, and consider what we may best plant. Trees that are natives of this climate or a similar one will be more apt to succeed than those growing naturally under different conditions; and fortunately, Kansas affords us a sufficient variety for all necessary purposes, though others may be desirable.

The white elm has yet to find a superior as a tree for shade and ornament. It is doubtful whether the temperate zone affords a better tree or a more majestic and more beautiful one. It is sometimes slow in getting started after having been transplanted, but there is less difficulty from this source if the trees are removed when smaller. White and green ash are also excellent trees for the yard. The hackberry is good as long as it keeps free from the "hackberry knot," a growth on the twigs looking like fragments of old birds' nests, and induced by the work of minute insects on the buds.

The coffee bean and the honey locust are both beautiful trees of the bean family, *Leguminosæ*. The thornless variety of the honey locust should be obtained. The black locust sprouts so badly that it should never be used as an ornamental tree, and is quickly destroyed by borers, too.

Box elder and the soft maple make rapid growth and dense shade, but are much better to plant on low ground where the roots can penetrate deeply and reach a moist stratum of earth, than on uplands. The maple is often badly broken by winds.

The sugar maple, except in the eastern counties of the State, is of very slow and uncertain growth, and will only succeed in a sheltered position. The American linden, or basswood, is a quick-growing, excellent tree, and there are one or two European varieties well worth cultivating.

As for the catalpa, one can only wonder why so many of these trees are planted. A specimen or two, for their broad leaves and handsome flowers, may well be included in every yard, but a whole street of them, yes, street after street, as I saw them in a Southern Kansas town recently, makes the raggedest effect that trees can produce.

Another place in the State is built where once stood a natural growth of oaks, containing many fine trees. The effect of clearing these out, as was sometimes done, and planting a few sorry looking catalpas, was truly pitiful.

Our native oaks furnish a number of beautiful species, of which the red oak is rather the best, but the black oak, the pin oak, and the shingle oak are all fine. These all belong to the black oak family. Of the white oak family, the true white oak is found only in a few eastern counties, but is a beautiful tree. The western chestnut-leaved oak, *Quercus Muhlenbergia*, clothes the hillsides as far west as the Republican River, and is an excellent tree to plant. The bur oak, the most western of all, extending well out along the Solomon, Saline, and Smoky Hill Rivers, is a strong grower after it is once established, and makes a majestic tree.

Our native cottonwood, while planted far too much on uplands, is a truly imposing tree, and not to be despised as common where it can be given sufficient room to develop. It is a bad tree for a yard because the roots sap the ground for rods around.

The native red-bud is one of the most beautiful of small trees, both in flower and leaf. The "Siberian pea tree," *Caragana Arborescens*, is hardly more than a shrub, but has beautiful foliage and yellow blossoms the size of pea flowers. The "Russian Olive," *Elagnus angustifolia*, is a small tree with striking silvery leaves. These all grow readily, and are fine to use against a background of larger trees or evergreens.

Of the Conifers, the Austrian, Scotch, and dwarf, or Mugho, pines are all hardy and reliable. The dwarf pine will not become more than six or eight feet high in fifteen or twenty years, but has a round, broad top.

Our native red cedar will endure anything but a loose, sandy soil. It makes a fairly rapid growth, but its color is too dull and sombre in the old trees, and the tree should be watched closely for the fungus growth which appears as small tan-colored balls on the twigs, which send out an orange-colored, jelly-like growth after a warm spring rain. The only way to keep this fungus down seems to be to carefully pick all these balls off, even to the size of shot. This can

be done in small trees, but is impossible when they get larger.

White spruce, Colorado spruce, Norway spruce, and Douglass spruce are all fairly successful in eastern counties, but farther west one had better be contented with pines.

The shrubs that may be used are many, and of sufficient variety to give blossoms or showy fruit during a great part of the season.

The common lilac can be grown by anyone, and can be obtained in colors from pure white to deep purplish red.

The Persian lilacs have smaller leaves and a more finely branching habit of growth, but are not, on the whole, as satisfactory as the common sorts.

Of bush honeysuckles, the Tartarian, in white and pink flowers, and the variety *grandiflora*, of a deep rose color, are handsome shrubs, and as hardy as shrubs can be. A more spreading variety is the fly honeysuckle; while the fragrant honeysuckle blossoms before the leaves appear, and the leaves are retained very late in the fall.

Four species of *Philadelphus*, or mock orange, *P. coronarius*, *P. grandiflora*, *P. Gordoniensis*, and *P. tomentosus* — give us nearly a month of these beautiful white flowers. These are rather tall, coarse shrubs, best suited for background planting.

The barberries, also tall growers, give pretty yellow blossoms in spring and bright scarlet or purple fruits in autumn and winter. There is also a purple leaved variety. A small, compact species, *Berberis Thunbergia*, is an excellent shrub.

The privets, though often used for hedges, and excellent for that purpose, yet may be planted singly or in groups and make very effective foliage shrubs. A large fruited variety is very ornamental in fall and winter.

A shrub sometimes called the evergreen willow, is *Tamarix*. The one most commonly met is *T. Gallica*, but another, more hardy, and of a better color, was received under the name of *T. Sibirica*. This has been identified by Professor Sargent as *T. Juniperina*. The slender growth of these, with the juniper-like foliage and small rose-colored flowers, make them very attractive.

Of the spireas that are reliable, the Van Houtte is the best. *S. Thunbergia* is very early, and has soft, dainty foliage, but winter-kills a little. Bridal wreath is good in foliage, but not always sure to blossom. *S. Bumalda* is low, compact, and very pretty.

If Japan quince only would not start so early in the spring as to get its flower buds killed, we could not do without it, and we do not want to as it is.

That old favorite, the snowball bush, should not be overlooked, and the new favorite, the *Hydrangea paniculata Grandiflora* of the catalogues, might well be called a summer snowball. Weigelas are not quite sure to bloom unless the winter is mild, but are well worth waiting for.

Two shrubs which grow in the border of the woods, the wahoo and the bladdernut, *Staphylea trifoliata*, are as good as many of the imported ones, and the wild climbing rose, *Rosa Setigera*, of the southeastern counties is now much sought after by planters of fine eastern estates.

The climbing vines, *Celastrus scandens*, or Bitter-sweet, *Ampelopsis quinquefolia*, and *Vitis indivisa*, can be found almost anywhere in the woods, and are as fine as anything the nurserymen will offer.

If any one starts out with the purpose of beautifying a Kansas home, the materials are not far to seek, and need not be very costly. The highest priced things on the catalogue are not often the most desirable, and many native Kansas trees are worth more than foreign ones for home adornment.

ADMISSION TO ENGINEERING COURSES.

BY PROF. O. P. HOOD.

A RECENT writer calls attention to the fact that the present requirements for a degree from our best engineering schools are more severe than the best in the law, medicine, or the ministry.

Opportunities for higher investigation have grown so rapidly of late that, in order to include more of this work in the engineer's training, he has been obliged to present himself to the technical course much better prepared than was required a few years ago. The tendency seems to be to demand all of general training and culture before he enters this work, and to restrict his four years professional study entirely to subjects of direct engineering value. Some schools have placed the standard of admission very high in order to restrict the numbers applying for this expensive training. The high standards of admission are an advantage in many ways. Engineering is now as learned a profession as any other. Many investigators of the highest class have been fitted and their

efforts turned to the problems of our material prosperity. Our mechanical engineering leads the world because of our natural ingenuity and our technical intelligence. Engineering is no longer empirical, but scientific, and calls on nearly every science for aid.

High entrance requirements are, however, making it difficult for a very deserving and promising class to avail themselves of the advantages of a technical course. Such a course now requires a young man's undivided and continuous attendance at school up to the time of entering professional study at about twenty years of age. He must have had common school, high school, and academic training. This means that only those having money and superior educational advantages can readily gain the necessary preliminary training. Young men who at the age of fifteen or sixteen have gone into the shop, and thereby a few years of apprenticeship learned the need of technical training, are most benefited by a proper course. These have some experience to attach their theories to, and their knowledge of the relative importance and inter-relation of studies make them the most practical of students and engineers. This class of young men are nearly ruled out by present requirements because their preparation, extends perhaps, only into high school a year or two. A maxim of President Anderson seems to apply to this case: "It is impossible for most people to find time to study everything that it is important for some men to master." It may well be asked if all engineers should follow the high-grade courses. Generally, the course is designed to fit high-grade, independent investigators, and probably one graduate in twenty rises to the full measure of his training. They fall short from lack of opportunity, lack of certain natural abilities, and sometimes from overtraining. All may succeed in less exalted positions.

There is some evidence tending to show an over-production of this class of engineers. But educated men who are good constructors, familiar with shop methods, and can handle men are always in demand. Employers frequently state that for an assistant they prefer a young man who has had a shop apprenticeship before taking any technical schooling. It seems, then, that some engineering courses should be so arranged that these young men with moderate preparation can be started in a course not necessarily the same as that followed by the embryo engineer, who hopes to bring the finest of mental tools to bear on the most difficult of engineering problems.

The criticism of employers who use technical graduates certainly shows an appreciation of those courses which allow the shop-trained young man similar opportunities to those open to the academical student.

ANTITOXIN.

BY PROF. N. S. MAYO, D. V. S.

WITHIN the past few years, rapid advances have been made in many branches of medical science, and especially with reference to the causes of disease, and practical means for prevention and treatment. The credit for the greater part of this advancement must be given to the bacteriologist, who has demonstrated the manner in which bacteria actually cause disease after they have once gained entrance to the body.

It is known that when disease germs gain entrance to the body and multiply there, a struggle ensues between the invading germs and certain cells of the body. Among the latter may be mentioned the white corpuscles of the blood, which try to destroy the germs by swallowing and digesting them. The white blood corpuscles are minute masses of living protoplasm, resembling the white of an egg in appearance, and capable of independent movement. When germs get into the blood, these white blood corpuscles engulf some of them, and apparently digest them; and in examining with a microscope the blood of persons or animals suffering from some germ disease, white blood corpuscles are seen, containing within their bodies one or more germs or bacteria in various stages of decomposition. This decomposition seems to be the result of a sort of digestive action exerted by the white blood corpuscle. It was formerly thought that this struggle between the invading germs and the cells of the body constituted disease. If the germs prevailed in this struggle, the individual died; and if the cells of the body were victorious, the individual got well, and the cells of the body being strengthened by their struggle, were enabled to resist future attacks of the disease.

While the above theory is probably partially true, it is not the only way in which germs may produce disease. It is now known that some germs, while

growing, either in the body or in an artificial medium, excrete, or throw off, from their bodies, a poisonous substance, which is known as toxin. If the germs are growing in the body and excreting this poison, or toxin, it may, if in sufficient quantities, poison the living cells of the body, and thus cause disease or death.

While the invading germs are growing and excreting the toxin, certain cells of the body, notably the white blood corpuscles, are working and excreting a chemical substance, antitoxin, which tends to neutralize and render harmless the toxin excreted by the bacteria. So these white blood corpuscles not only try to destroy the invading germs by eating them up, but they also protect us by neutralizing the poison excreted by the disease-producing bacteria.

The following, in general, is the method employed in producing the diphtheritic antitoxin which has attracted so much attention recently: The germs of diphtheria are grown outside of the body in an artificial culture medium, say of beef broth. As they grow in this broth the germs excrete the poison, toxin. The germs in the broth are then destroyed by thorough boiling, or are filtered out by passing the broth through an unglazed porcelain filter. There remains then a germ-free solution of the poison, or toxin. This toxin is then injected into previously prepared healthy horses, and the white blood corpuscles of the horses' blood go to work immediately, and excrete an antitoxin to neutralize the poison which has been injected. Quantities of the horses' blood are drawn, and the serum, or liquid portion, which contains a large percentage of the antitoxin, is carefully preserved.

When a case of diphtheria occurs, this blood serum from the horse which contains the antitoxin is injected under the skin of the little sufferer, and neutralizes the poison which is being formed by the diphtheritic germs. If used in time, antitoxin has given excellent results in the treatment of one of the most dreaded scourges of childhood. The discovery of antitoxin opens the way for future possibilities along this line, the importance of which we cannot comprehend.

The Large or Small Farm: Which?

Whether it is best to try to grow a larger quantity of any given crop than was produced last year may be an open question, but as relates to many, perhaps to most farmers, there can be no doubt that it will pay well to grow large crops per acre. For the average American farmer there seems to be a strong fascination in a large business. He delights in "broad acres," and many of them. The larger his fields of grass or grain the better he is pleased. He forgets the injunction "despise not the day of small things," and he reaches out after something more elaborate than he has yet attained. This course has been followed for a long time. The fathers marked it out, and the children have not only followed it but have given it a still greater degree of expansion. The results have not been wholly satisfactory.

Many, in all, have been taking another course, and there is a growing tendency toward intensive farming. This tendency is to be encouraged. Young farmers, especially, should consider very carefully whether their chances of success would not be greater if they were to thoroughly cultivate small farms than they can be if large operations are undertaken. Many a man has been hampered for life by buying too large a farm at the start, and a still greater number have condemned themselves to bondage for the remainder of their natural lives by buying more land when they had the farm upon which they started nearly or quite paid for. Probably the majority of the farms in this country are much too large and their owners would not only take life more easily, but would also make more money if they would sell, rent, or convert into pasture or woodland some of the acres that have long been kept under the plow. As a rule, large crops on small areas pay better than small, or even moderate, yields per acre in large fields. This subject is always worthy of careful thought, but it seems especially timely now as the season for planting and sowing is about to open.—*Practical Farmer*.

The combination for the improved farmer of today is strength of body, willing hands, and an active brain. Nothing less than this will turn the fertility of the acres into profit. We have many farmers, so-called, who know how to tickle the land so as to get a living out of it, but when it comes to making the work profitable, they are as much out of place as a gorilla playing a base viol in an orchestra. The improved farmer who understands farming so as to make it profitable under the conditions of today, is neither a soil robber nor a keeper of scrubs. He knows a good thing when he sees it, and understands how to use his reasoning powers so that he can believe some things that he has not actually seen. As a rule he can be induced to purchase sacaline, Bohemian oats, bush strawberries, and a thousand and one other frauds that are boomed from year to year, apparently in the fear that the farmer may grow too wealthy.—*Live Stock Indicator*.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1895-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Prof. Mason drives a new horse—a high-stepping sorrel.

John and William Poole are still out of classes attending their sick mother.

Mrs. Gentes of Council Grove visited her daughter in College several days this week.

The President's office is busy already with the assignment of students to duties of next term.

The Board of Regents will gather for the annual meeting on Wednesday, April 1st, at 3:30 P. M.

Secy. Graham lectures this evening before the Geary County Teachers' Association at Junction City.

Prof. Failyer rides a beautiful new Remington bicycle, which, shorn of its brake, would be the envy of every wheelman in College.

Bulletin No. 55, upon "Irrigation for Small Fruits," and "Strawberry Culture," from the Horticultural Department of the Experiment Station, is in type, and will soon be ready for distribution.

The Horticultural Department offers for sale, at a bargain, 1500 fine three-year-old apple trees in the following varieties: Winesap, Ben Davis, Missouri Pippin, and Maiden Blush. Also, two-year-old asparagus in the leading varieties.

The change of weekly holiday from Saturday to Monday for the Spring term brings the proverbial two holidays together, and gives an actual vacation between the winter and spring terms. Classes will meet in full organization on Tuesday, March 31st.

Mrs. Kedzie and Mrs. Winchip spent Saturday last in Topeka. The former indulged her taste for fine table ware in the purchase of a beautiful Wedgwood tea set of dark blue, and the latter made a study of the spring styles for the benefit of the sewing classes.

Hon. A. P. Riddle of Minneapolis, Lieut.-Governor in 1883-4, is appointed Regent of the College for three years from April 1st next, to succeed W. D. Street of Oberlin. Gov. Riddle has a wide repute for his earnest interest in the welfare of the State, and will make an efficient member of the Board.

The Fifth Annual Report of Chancellor Snow upon the experiments in exterminating chinch bugs, received this week, presents, besides the data from field and laboratory, suggestions of methods for checking the progress of bugs from field to field in seasons such as that of 1895, when infections from the fungous disease do not work.

Mr. Knox, the well-known maker of gelatine, sends the College another large box of his fine product, and the young ladies of the Cooking Class take great delight in the concoction of the many fancy dishes of which gelatine admits. Charlottes and jellies, snow puddings and creams, only begin the list of good things which are turned out under the deft fingers of the class.

Accessions to the library for the two weeks ending March 21st: Iridae—Baker; Amaryllidae—Baker; Treatise on the Vine—Prince; Practical Treatise on the Culture of the Grape—Allen; Report of the Postmaster-General, 1894; Commerce of the United States with European Countries, 1790-1890—Statistical Tables; Report of the Commissioner of Patents, 1894; Report of the Secretary of the Interior, Vol. 2, 1894—Indian Affairs; Vol. 5, pt. 1, 1892-3—Education; Report of the Secretary of War, Vol. 2, 1894, Engineers, pt. 4; Vol. 3, 1894, Ordnance; Official Records of the War of the Rebellion, Vol. 47, pt. 2, Campaign of the Carolinas; Barnyard Manure—W. H. Beal (pamphlet).

Ex-Lieutenant-Governor Melville J. Salter, at one time a member of the Board of Regents of this College, died at his country home, near Fort Scott, on March 11th, of the grip. He was elected Lieutenant-Governor of Kansas in 1874, and re-elected in 1876. From 1875 until 1877, he was a Regent of the Kansas State Agricultural College. In 1877, he resigned his office as Lieutenant-Governor to accept an appointment in the land office at Independence, Kan. He was elected Lieutenant-Governor from Neosho County, and in 1889 moved to Pawnee, Bourbon County. He was 62 years old, and is survived by a wife and three sons.

Mrs. Kedzie and the Post-graduate Class on Thursday gave one of their pleasant afternoon receptions in honor of Miss Gertrude Coburn, who has been paying a brief visit to her alma mater before assuming her duties as Professor of Domestic Economy in the Iowa State Agricultural College at Ames. The guests were alumni connected with the College to the number of thirty-five, and representing classes graduated during the last nineteen years. The office was decorated with ferns and growing plants. Dainty refreshments were served from the daintiest of china by young ladies of the Post-graduate Class. The meeting was delightfully informal, as gatherings of our alumni are wont to be, and the parting good

wishes for Miss Coburn's success may best find expression in the hope that Iowa College may find its chair of Domestic Economy as ably and gracefully filled as is that of our own State, and that to Miss Coburn may come as large a measure of loving appreciation from her pupils as Mrs. Kedzie receives from hers.

The Fifth Division of the Senior Class entertained in Chapel Friday afternoon, as follows: "A Neglected Subject," C. Snyder; "The Children's Poet," Clara Newell; "Humanity's Panacea," Fannie Parkinson; "The Salvation Army," E. A. Powell; "The New Poet Laureate," Ellen Norton; "False Patriotism," R. K. Farrar; "Take a Bird's-eye View," Gertrude Havens; Music, Instrumental Solo, "Love's Old Sweet Song," H. G. Johnson.

GRADUATES AND FORMER STUDENTS.

G. C. Gentes, Second-year in 1889-90, is a fireman on the Santa Fe Railroad.

Walter Harling, '94, and Elizabeth W. Perry-Harling were made happy on the 14th by the birth of a daughter.

M. C. Findley, student in 1892-3, graduated, March 19th, with a large class from the University Medical College, Kansas City.

A. L. Eidsom, student in 1893-4, visited College this week. He is teaching in the Pottawatomie Indian School in Jackson County.

F. E. Rader, '95, attended the Webster Exhibition. He will soon close his school on Swede Creek in the northern part of this county.

Invitations are issued for the marriage of Katherine G. Harbord, Third-year in 1885-6, to Mr. William P. De Baun, at Council Grove, April 2nd.

W. C. Mead, student in 1891-2, writes from Maple City, Kansas, of teaching a school from which he hopes to send some graduates to College next year.

While at the Concordia Institute, Prof. Walters met Frank and Inez Bishop, students in 1883, both of whom are prospering on the home farm near Glasco, Cloud County.

Gertrude Coburn, '91, spent a few days at the College this week, before taking up her work on Tuesday next as Professor of Household Economy in the State Agricultural College at Ames, Iowa.

A letter from Geo. W. Wildin, '92, comes from San Luis, Potosi, Old Mexico. He is Mechanical Engineer on a division of the Mexican Central Railway at a good salary, and with opportunities and prospects of the best. His interest in College matters is shown by a call for the INDUSTRIALIST, catalogues, and other information.

Sorghum Seed for Sale.

The Chemical Department has for sale improved sorghum seed of the several varieties which have proved to be the best in the past years' experiments. An account of these sorts of sorghum will be found in the bulletins of the Station. The principal kinds are Early Amber, Folger's Early, Medium Orange, Kansas Orange, Collier (undendebule), Colman (a cross of Orange and Amber), Denton (another cross).

We have limited quantities of specially selected seed of most of the sorts. Address, G. H. FAILYER, Manhattan, Kansas.

The Webster Annual.

A full chapel, without the usual crowd, greeted the Websters last Saturday evening at their fourteenth annual exhibition. Although the day's snowstorm had left the roads in bad condition, almost every one who had procured a ticket was present.

The stage was tastefully decorated with palms, flowers, and drapery of curtains, with the Society motto, "Labor Omnia Vincit," displayed on the national flag in the background.

As the Cadet Band struck up the opening piece, "Cubaone," President E. H. Webster and Rev. A. J. White, '74, a charter member of the Society, took their seats on the rostrum.

Mr. White invoked the blessing of God on the evening's exercises. This was followed by an anthem, "Fear Thou Not," by an octet of Websters.

After a few opening words of welcome and explanation, President Webster introduced Mr. F. E. Uhl, who addressed the audience on "Liberty of Thought." The speaker traced the course of liberty, the highest aim of man, through the ancient nations and through European history to its high development at the present time. But conscience does not yet truly determine the actions of men. Liberty of thought must be before true liberty is possible. Opinions suppressed may contain truths we do not know. Prejudice must be banished and knowledge disseminated. Let us hope to see liberty better defined, and as the tiny flower blooming at our feet does its share in God's great design, do our part, though small it may be, toward furthering the cause of liberty, the divine right of man. May independence bell yet "proclaim liberty" in its fullest sense, "throughout all the land unto all the inhabitants thereof."

"Ben Bolt," the song made so famous by Du Maurier, was sung by the Webster Quartette, E. B. Patten, R. J. Peck, R. B. Mitchell, and S. B. Newell.

"Individual versus Municipal Ownership" was the subject under discussion in the debate. R. W. Bishoff upheld individualism for the reason that municipal ownership gives such great advantages to political schemers. In cities where tried it has proved detrimental to their welfare; and in Philadelphia, has even greatly increased the city expenses. The evils of individualism have been magnified, and they cannot be remedied by municipal control, the advancement of which has been due to the bright side only

being presented by reformers. In reply, W. B. Chase showed how municipal control gives freedom from monopoly in the control of city institutions, and prevents the profit from going to individuals, thus making lower rates to the public. Examples of cities where the success of the system has been proved were cited.

The solo by L. W. Hayes, "On the Rolling Wave," was heartily applauded by the audience.

The declamation, "Unjust National Acquisition," by R. B. Mitchell, was given in a distinct, earnest voice that made clear the thought of the selection.

The Society paper, the "Reporter," was filled with poetry and prose, both interesting and thoughtful; and was so varied with dashes of the characteristic humor of its editor, E. G. Gibson, that his hearers could not fail to be entertained throughout the entire paper.

A duet, "March 1e Grande," was well rendered by the Webster pianists, R. J. Peck and W. J. Rhoades.

Mr. J. B. Dorman's oration, "Works of Time," was a masterpiece of thought and eloquence. His most striking points are here given in synopsis: To day we are. To morrow we are not. The powers that once ruled the world are now slumbering in oblivion. Time wrought the change; ever changing, ever the same. It flows out from the future like a silver streamlet, broadens into the swift-rolling current of the present, and is engulfed in the ocean of the past. Upon its shore planets, yea, perhaps universes, have passed away. What is man but the product of time? Left by his creator but little superior to his fellow creatures, time has guided him up the ladder of advancement to his lofty pinnacle of education and morality. Oh! time, where is the destiny of man? Whence leads this ever-broadening road of progress? Is it to some crowning summit of knowledge from which he shall look with true wisdom on the eternal theme of justice crowned with truth.

The song, "College Times," sung by a chorus of Websters, portrayed familiar College incidents and bits of College life in a way amusing to all.

"Modus Examinationis" proved to be a play, original and up-to-date. A new method of taking examinations by subjecting the individual to the action of the X rays was shown in action. Students of various kinds and classes were examined, and the photographs showing the condition of the cranium in each case were thrown by means of a stereopticon upon a screen. The effect of the different colored vacuum tubes, casting their pale radiance on the operators going about their work on the darkened stage was amusing, grotesque, and startling when the results were seen on the screen.

An octette, "Schnieder's Band," closed the program, and the audience departed with a more or less defined feeling that the Webster Annual had been a success.

The New Modus Examinationis.

Prof. Roentgen's discovery was put to a new use by the Websters in their play last Saturday evening. It was that of testing the mental condition of students by a subjection to the influence of the X rays, while a sensitive plate held on the other side of the individual photographed the true state of his cranium. The picture was then thrown on a screen by means of the stereopticon. The results beheld by the audience were startling.

The first was a frightened country student who came to take the entrance examination. The results show that he had more learning in his head than the others, though it was in a confused state.

The next applicant was a very self-confident sport from one of our eastern towns, who greeted the professors heartily, and sat down in the chair. His skull was so thick that even the cathode rays could not penetrate it, and he departed in search of the foot ball ground.

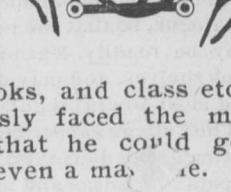
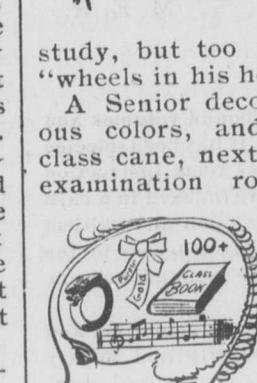
The uniformed Second-year who next marched in showed that the sporting elements of his nature predominated, or else that everything else had been "drilled" out of his head.

The Third-year who came to take the examination in mechanics proved that he did have some knowledge of that branch of

study, but too much of it was "wheels in his head."

A Senior decorated with various colors, and flourishing his class cane, next appeared in the examination room whistling a merry tune. His head was full of class rings, class books, and class etc., but he fearlessly faced the music, knowing that he could get 100 plus out of even a man.

An alumnus who had dropped in manifested intense interest in the advancement his alma mater had made in the method of giving examinations. The professors finally persuaded him to take the chair, assuring him that they could reproduce upon the screen the aspiration then uppermost in his mind. The last cut shows the result.



COLLEGE ORGANIZATIONS.

Student Editors.—May Bowen, J. B. S. Norton, John Poole.

Alpha Beta Society.—President, A. C. Peck; Vice-President, Grace Secret; Recording Secretary, E. A. Powell; Corresponding Secretary, Etta Ridenour; Treasurer, Guy Hulett; Critic, Inez Palmer; Marshal, W. H. Ellis; Board of Directors, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, E. H. Webster; Vice-President, E. G. Gibson; Recording Secretary, W. J. Rhoades; Corresponding Secretary, J. B. Norton; Treasurer, E. E. Butterfield; Critic, T. M. Robertson; Marshal, H. L. V. Uhl; Board of Directors, F. H. Myer, J. E. Trembley, C. H. Stokely, J. H. Bower, T. W. Allison.

Hamilton Society.—President, John Poole; Vice-President, G. C. Hall; Recording Secretary, A. L. Frowe; Corresponding Secretary, L. A. Fitz; Treasurer, G. G. Menke; Critic, C. F. Doane; Marshal, W. J. Goode; Board of Directors, J. W. Holland, S. J. Adams, A. W. Staver, C. E. Copeland, A. J. Pottorf.

Ionian Society.—President, Clara Newell; Vice-President, Gertrude Lyman; Recording Secretary, Minnie Spohr; Corresponding Secretary, Olive Long; Treasurer, Mary Norton; Critic, Miriam Swingle; Marshal, Hattie Goode; Board of Directors, Minnie Pincomb, Ellen Norton, Gertrude Lyman, Bessie Lock, Winifred Houghton.

March 13th.

The Ionian Society met in one of the best sessions of the year. Every chair was taken when President Newell called the Society to order. After devotional exercises the program was opened by an oration delivered by Gertrude Lyman. Her subject was "Women as inventors," and she treated it in a most interesting and pleasing manner. The Society was entertained by a vocal solo, given by Marie Haulenbeck, Miss Gertrude Haulenbeck accompanying her on the piano. Mabelle Crump gave a declamation in a most pleasing manner. The Oracle was presented by its editor, Emilie Pfuetze. It was one of the best editions of the year. Jeannette Gilbert entertained the Society with a vocal solo, with Jeannette Perry at the piano. The first chapter of the "Continued Story" was given by Harriet Vandivert. Minnie Pincomb gave an excellent invective entitled, "The Senior Class." The Society was highly entertained by a vocal solo given by Josephine Wilder. Phoebe Smith was committed on extemporaneous speaking, and gave a number of good subjects, and those called upon gave a few interesting remarks. Grace Stokes gave a parody. Olive Lewis gave a declamation, which was a pleasant feature of the program. Marie Haulenbeck gave a dream. The program was closed by Mrs. Coulson with a most charming vocal solo. After the program the Society returned to the order of initiation of new members, and Lottie Forsythe was initiated. The Society then proceeded with the regular orders of business.

O. A. L.

March 13th.

President Peck called the Alpha Betas to order. The program opened by congregational singing. Etta Ridenour led the Society in devotion. A male quartette, consisting of Messrs. Spalding, Hulett, Chandler, and Clothier, favored the Society with a most excellent selection. In an essay, Mr. Green, gave his views of the question of intemperance. Lizzie Jones, in a very pleasing manner, delivered an oration, entitled "The Influence of the Teacher." The teacher has, to a certain extent, the molding of the mind and character of those under his care. His education should be such that he may enable the child to make the best possible growth. He should have thorough knowledge of books, and nature, but most of all he should have a firm trust in the Supreme being, that his moral influence may be of the best. Miss Needham, in a very interesting declamation, told the Society the "First Settlers' Story." The question, "Should Instruction in the Kitchen be Extended to the Boys?" was argued on the affirmative by F. J. Rumold and Guy Hulett. They maintained that this is a school where soldiers are trained, and no soldier should be sent out without knowing how to cook. The condition of the man who cannot cook is almost as deplorable as that of the savage. In many cases the boys have to do their own cooking, and if they could have the training at the College, they would know something about it. Misses Thackrey and Zimmerman, on the negative, said this College was to teach boys how to farm, and girls how to cook. That boys did not have the patience to learn how to cook. Nettie Gilbert entertained the Society with a vocal solo, Jeannette Perry accompanying on the piano. The "Gleaner" was presented by Ed. Shellerbaum. After recess, the Society was favored with a piano duet, by Misses Finley and Gilkerson. In a symposium, Nora Reed related her experience at the first "College Social." After a short business session, the Society adjourned.

M. E. R.

Library.

The College library consists of over 13,000 bound volumes and about 4,000 pamphlets, and is valued at \$20,000. It has been selected mainly with a view to supplementing the class room instruction in the various departments. All the books are indexed in a card catalogue, so that the resources of the library upon any subject may be readily learned. All students have free access to the book shelves, and may draw the books for home use, under simple and most liberal regulations.

The College subscribes for the leading literary, scientific, and agricultural journals; while the principal daily and weekly papers of Kansas and many from other States are received in exchange for the College publications. All these are kept on file for the use of students and Faculty.

The College has been designated as the depository of United States public documents for the Fifth Congressional District of Kansas. About 1,000 volumes have already been received on this account.

The library is open daily except on legal holidays. During the College terms, the library hours are from 8 A. M. to 4 P. M., and during vacation from 9 A. M. to 12 M. The Librarian or the assistant is in constant attendance, at these hours, to assist those who use the books.

Waste of Fertility.

The unnecessary waste of fertility is one of the serious obstacles to successful farming, and the farmers of the northwest must learn to practice economy in this line or it will be a long time before the average farmer will be able to make farming pay. Farming as a business, in comparison with the wonderful advancement made in other lines of human industry, has not held its own. In other lines the constant aim is to lessen the cost of production, a corner is cut off; what was formerly considered waste is saved and worked up into an article of merchandise. The business man makes a study of his business and is constantly on the alert, and whenever a leak, however small, is discovered, does not rest until it is stopped. While we admit that some of the leaks on the farm are difficult to prevent, we do not believe that any thinking farmer will deny that the losses in the aggregate are far in excess of what they ought to be. In this connection, J. H. Brown, an able writer on agricultural subjects, has the following in a recent issue of the *Michigan Farmer*.

Some of the losses we shall speak of are from our own experience. One of the greatest losses on the average farm is in repeatedly allowing accumulated fertility to go to waste.

As much as has been written and spoken through the medium of the agricultural press and upon the farmers' institute lecture platform upon this subject, there still exists this almost general and unnecessary loss. The question is, can the every-day, practical farmer even partially eliminate these constantly recurring losses with a minimum increase in actual expense for better and more perfect facilities in handling the manure made on the farm? Certainly he can, and the amount of manure made may, in many instances, be wonderfully increased.

Until about twelve or thirteen years ago, our own barnyard lay between the barns and public highway. From the barns there was a gradual slope towards the highway, and to the west, into a small lot used for meadow and pasture.

The manure made was much smaller in amount, of course, than at present. There was more straw on hand at that time, as wheat was our principal crop. Notwithstanding this, there was little care taken in saving the manure while in the yard.

The manure from the stables was thrown out under the eaves on the bare ground. When rains set in, both manure and surface soil was regularly punched up into a flexible "mash" by the pedal extremities of both men and stock. The liquid fertility oozed out and leached down, succumbing to the force of gravitation, until it finally landed in the roadside or the fence corners of the little lot aforesaid.

It was about this time that the writer was superintendent of the manure department. His father had specially deputized him to clean out the stables, as he was considered old enough to "do chores." We remember of frequently and seriously cogitating within our cranium the propriety of filling the barnyard full of manure, and then moving the buildings onto a fresh spot, out of the mud, to be filled in again.

In fact, we knew absolutely nothing about barnyard manure, except that it made a good sized puddle, through which we were daily obliged (?) to wade. As to its relation to soil fertility, we were profoundly ignorant, and felt too big and "smart" to receive and retain any advice from any man, on this or any other subject. To tell the truth, we were ashamed to speak of such a thing as manure, and "felt above it," except when we occasionally slipped, in taking too big steps in crossing the general barnyard puddle, and fell down into it. Our thoughts and personal feelings soared (roared) anywhere but "high," during such sad and touching incidents in our early career.

Our first move was made after we had for a short time been reading the *Ohio Farmer*. We did not even subscribe for the paper, but it was sent to us "on trial for three months." We had partially overcome the badly swelled condition of our cranium, and our parents and friends were ardently hoping for no relapse. At the time, and before our "trial" of the *Ohio Farmer* was up, we recovered sufficiently to imbibe and retain some of the thoughts of others.

We speak of our experience, because many farmer's sons go through the same ordeal. The boys on the farm should be early taught the value of barnyard manure in connection with soil fertility. Farmers themselves are to blame that they do not endeavor to explain all these matters to their boys. And they are largely to blame for the boys leaving the farm.

A boy seven years old is generally supposed to have reached the period of accountability. He asks the reason for everything, and can be easily taught many of the principles of elementary agriculture. At the above age it is none too early to begin. The ignorance that has prevailed, and still exists, is largely responsible for a portion of our agricultural ills.

Let us, as reading, thinking farmers, and fathers of boys now running over the farm every day, "chuck full" of "whys," do our best to place agriculture on a higher plane, and bring our sons into manhood on the farm thoroughly cognizant of the principals of agriculture and their intellectual, practical, and profitable application.—*Oregon Agriculturist*.

One of the best investments a prudent farmer ever makes is in a good garden. Properly planned, nearly all the hard work can be done with a horse and the hand labor can much of it be done at odd hours. In these snug times, the saving in grocery and meat-market bills, of a garden giving supplies for the table for the greater part of the year is an item not easily estimated.—*Spirit of the West*.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popenoe, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

SHORTHORNS

FOR SALE

Several young shorthorn bulls of the best breeding and from good individuals are for sale at the College Farm. Also a fine two-year old Aberdeen Angus bull. Address

PROFESSOR GEORGESON, Manhattan, Kansas.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc.

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LESLIE SMITH. College and School Books and Stationery. Note-books, tablets, inks, pens, pencils, drawing instruments, etc. Also a full line of reliable boots, shoes, slippers, and rubbers. Prices are low.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest styles, the most popular prices. Always pleased to show goods.

CLOTHING.

ELLIOT & GARRETSON, Clothiers and Furnishers, invite students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

KOSTMAN CLOTHING COMPANY offers a great variety of clothing and furnishing goods at prices to suit the times. Call without fail before buying.

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R. E. LOFINCK keeps a big stock of Watches, Clocks, Jewelry and Gold Spectacles, also Musical Instruments.

DRUGS.

W. C. JOHNSTON, Druggist. A large line of Toilet Articles and Fancy Goods. The patronage of students is solicited.

PHOTOGRAPHS.

DEWEY & DEWEY, the Manhattan photographers, solicit the student trade. Special rates to clubs and large groups. Call and see samples. Oldest gallery, established 1859.

GENERAL MERCHANDISE.

THE SPOT CASH STORE is Headquarters for Dry Goods, Novelties, Boots and Shoes, Hats and Caps, Clothing, and Ladies' Wraps. Lowest prices in the city. A complete grocery store in connection.

DENTIST.

D. R. C. P. BLACHLY, Dentist. Gold filling a specialty.

MEAT MARKET.

SCHULTZ BROS. offer Fresh and Salt Meats in great variety. Students are invited to call at their market on Poyntz Avenue, one door east of Fox's bookstore, or give orders to delivery wagon.

SHAVING PARLOR.

6 BATHS, \$1.00 cash. 12 shaves, \$1.00 cash, Hair cutting a specialty. All work first-class at Pete Hostrup's Barber Shop, Next door to Postoffice.

THE INDUSTRIALIST.

VOLUME XXI.

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NUMBER 29.

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ALEXANDER B. BROWN, A. M.,
Professor of Music.
JOHN S. C. THOMPSON,
Superintendent of Printing.
FRANCIS H. WHITE, A. M.,
Professor of History and Political Science.
CHARLES C. GEORGESON, M. Sc.,
Professor of Agriculture,
Superintendent of Farm.
ERNEST R. NICHOLS, A. M.,
Professor of Physics.
NELSON S. MAYO, D. V. S., M. Sc.,
Professor of Physiology and Veterinary Science
JULIUS T. WILLARD, M. Sc.,
Assistant Professor of Chemistry.
ALBERT S. HITCHCOCK, M. Sc.,
Professor of Botany.
SILAS C. MASON, M. Sc.,
Professor of Horticulture,
Superintendent of Orchards and Gardens.
MISS JOSEPHINE C. HARPER,
Instructor in Mathematics
MISS ALICE RUPP,
Instructor in English.
HARRY G. CAVENAUGH, Captain 13th U. S. Infantry,
Professor of Military Science and Tactics.
THOMAS E. WILL, A. M.,
Professor of Political Economy.
MISS JULIA R. PEARCE, B. Sc.,
Librarian.

ASSISTANTS AND FOREMEN.

C. M. BREESE, M. Sc., Assistant in Chemistry.
GRACE M. CLARK, B. Sc., Stenographer in Executive Office.
ISABELLA R. FRISBIE, B. Sc., Assistant in Sewing.
RUTH T. STOKES, B. Sc., Assistant in Household Economy.
WM. BAXTER, Foreman of Greenhouses.
W. L. HOUSE, Foreman of Carpenter Shop.
ENOS HERROLD, Foreman of Iron Shops.
GEO. SEXTON, Foreman of Farm.
C. A. GUNDAKER, Engineer.
A. C. MCCREARY, Janitor
JACOB LUND, M. Sc., Fireman and Steam-fitter.

ASSISTANTS IN EXPERIMENT STATION.

F. A. MARLATT, B. Sc., Entomology.
F. C. BURTIS, M. Sc., Agriculture.
D. H. OTIS, B. Sc., Agriculture.
F. C. SEARS, B. Sc., Horticulture
J. B. S. NORTON, Botany.

HARD WATER.

BY PROF. J. T. WILLARD.

ALL natural waters are more or less impure, being contaminated by substances floating in the air, and hence taken up by the rain in falling through it, and by substances dissolved from the soil as it percolates through. The softness of rain water has been attributed to ammonium carbonate obtained in the passage through the air, and the hardness of certain waters is due to the presence of calcium and magnesium compounds acquired from the soil. The brackish taste of what is frequently referred to as "alkali water" may be due to Glauber's salt, sodium sulphate, in some cases, though probably more often to Epsom salt, which is the corresponding magnesium compound. "Alkali water" will usually be hard water also, then.

Waters are said to be hard when they give a precipitate with soap, and do not form a lather until a considerable amount has been dissolved. This precipitate may be observed by anyone by stirring hard water with soap, and then letting it stand a few moments. The hard feeling that such water gives is due to the stickiness of the precipitate which adheres to the hands, or to any other objects present, including the sides of the wash-bowl. Soap is a mixture of sodium or potassium compounds of certain acids obtained from the grease used in its manufacture. These compounds are soluble in water with but little decomposition, but in the presence of solutions of calcium or magnesium compounds they are decomposed, forming an insoluble compound of these metals with the acids.

Two kinds of hard water are easily distinguished; those which are said to be temporarily hard, and those that are permanently so. The former may be softened by processes wholly inapplicable to the latter. Temporary hardness is caused by the presence in solution of calcium or magnesium in the form of carbonate. Our common limestone is the chief source of these substances. Pure water has no solvent action on limestone, but water containing carbon dioxide, i. e., carbonic acid gas, in solution, has the power to dissolve it. Carbon dioxide is being constantly formed in the soil by the decay of organic matter. Rain water contains very little carbon dioxide, but as it filters through the soil it takes up this gas, and then dissolves some of the finely divided calcium and magnesium carbonates present. Iron oxide may also be dissolved, being changed thereby to a carbonate. The air of soils contains a much greater percentage of carbon dioxide than the atmosphere does. Water, therefore, becomes charged in the soil with much more of this gas than it can hold when exposed to the air. On exposure it loses this excess, and the water may become turbid because of the consequent precipitation of the carbonates held there through its agency. Heating hastens the escape of the gas, and hence water, temporarily hard, will be completely softened by boiling.

From the foregoing, it will be seen that temporary hardness is possible only in the presence of excess of carbon dioxide, and any means of removing this will cause the mineral matter to be deposited. A method is used on the large scale which is at first sight very surprising. It consists in adding slaked lime to the water. The lime combines with the carbon dioxide, forming calcium carbonate which is precipitated, and at the same time the carbonates held in solution by the carbon dioxide are precipitated. Of course the lime must be added in exactly the right quantity. Such water can also be softened by adding concentrated lye, which is caustic soda, or sodium hydroxide, in the proper quantity. Sodium carbonate in the form of sal soda, or potassium carbonate obtained by leaching wood-ashes, may also be used, as they form soluble bi-carbonates with the carbon dioxide present and thus separate the calcium and magnesium carbonates.

Water containing calcium or magnesium salts, in compounds other than the carbonates, cannot be softened by boiling, and is said to be permanently hard. The most common example of such waters is found in gypsum regions. Gypsum is calcium sulphate, and is soluble in water to a certain extent, whether it contains carbon dioxide or not. Calcium chloride, magnesium chloride, and magnesium sulphate are not infrequently found in water, and give it permanent hardness. Often, a water will possess both temporary and permanent hardness. Such water is especially bad for use in steamboilers, for as the water evaporates the gypsum is deposited

and also the limestone, and the two together produce a more troublesome scale than either alone. Permanent hardness can be removed from water by any of the chemical means mentioned as applicable to temporary hardness, except the lime method. For use in softening water for making steam, or on a relatively large scale, probably sal soda would be the most available, though if carbon dioxide were in the water, caustic soda would be more efficient. On the small scale, as for the domestic laundry, the same means might be used, or simply fresh wood ashes added to the water. In any case the solid which separates from the water must be removed by settling, skimming, or straining, or by a combination of these processes.

SOCIETY'S FIRST PRINCIPLE.

BY PROF. THOS. E. WILL.

THE evolution-philosophy, once the heresy of the solitary thinker, and later, the orthodoxy of the schools, has at last descended into the streets. In its more obvious forms it has become the vogue; and the layman prates glibly of the "struggle for existence," and "the survival of the fittest."

Far be it from one as fully committed as is the present writer to question the fundamental tenets of that philosophy: the "evidences of evolution" are too omnipresent and overwhelming. Neither would he, though not unmindful of Professor Huxley's later misgivings, question the beneficence of the workings of the evolutionary law. Though the course of nature has been "red in tooth and claw," and though "blood and iron" have brought untold sorrow to the race, that course, broadly viewed, has been upward; and the sorrow has been but an agency making for human progress. In the fight for food and mates, the strong have displaced the weak; and, themselves strengthened and developed by the combat, have bequeathed to the race a hardier progeny. War, notwithstanding its horrors and brutality, and its utter inconsistency with our accepted religious theories, has proved a nation builder. The massing, under military organization and military rule, of huge but once-scattered population, has made possible the Englands and Germanies of today. Even our own nation, as we but too well remember, is a union of many once self-sufficient and jealous States cemented together with blood.

In industry, too, the student of society everywhere notes the workings of the self-same law. As families grow to clans, clans to tribes, tribes to states, and states to nations and empires, so domestic industries evolve into factories, factories into factory towns, and these, ultimately, develop into that imperial type of industry known as the "trust," whose master, like his political prototype, the monarch, has found it necessary to wade through slaughter to a throne.

Yet, despite the pomp and circumstance of war, a hard-fought battlefield, whether military or industrial, is not an edifying spectacle; and, with our modern sensitiveness, we are beginning to ask whether the victory is worth its cost. Some, indeed, find fault, not so much with the struggle as with its limitations. If we could but confine the conflict to our own country, says one, and exclude from the arena the merciless foreigner! If we could but strip the armor from all, says another, throw down all breastworks and international barricades, and let the battle rage with perfect freedom, all would be well.

But do we fully comprehend what is implied in the principle of warfare itself—warfare coupled with the belief that we prove our fitness only by surviving, and hence should win; fairly, if possible, but surely, and by whatever means? Do we recognize the potent fact that every considerable group, whether of plants, animals, or men, can be roughly separated into the two classes of strong and weak—strength, among men, consisting in brawn, courage, acuteness, co-operative ability, address, capacity to adapt herself to circumstances, or whatever gives one a personal advantage over others? And do we realize that, so long as men struggle for the mastery, so long must the strong infallibly win? Again, the conditions of the contest are steadily changing. In primitive warfare—even in the days of bills and bows—one man's advantage over another was slight; but today, armed with modern, improved killing machinery, one can literally chase a thousand, and two can put ten thousand to flight. Similarly in industry, he whose favored position enables him to "press the button" can smile at the impotent clamor and rage of the multitude who feel the electric shock.

But, says one, if only the crowd could get at the button! Ah! we answer, there's the rub. The strong—those possessed of true ability and genuine worth, or it may be, of mere finesse and skill in shuffling the cards, gravitate to these favored positions as certainly as does water to the sea-level; and do what we will to restrain the one or the other, each in its own good time arrives at the goal.

How vain, then, the hope of emancipating ourselves from the dominion of the Strong Man merely by readjusting the organization of our social mechanism, political, religious, or economic. Abolish the king, and we find in his place the first consul or the president, or, perhaps, the party boss armed with all the power, but freed from the responsibility of the sovereign. Renounce allegiance to the pope only to find in his place the bishop or synod or parson or, mayhap, the "solid member."

Similarly in the economic world; suppose we do dispense with the Captain of Industry, and organize our society on a coöperative basis. Do we imagine the strong man will disappear? Instead, is it not the universal experience that wherever men become organically bound together, whether nominally, by the principle of authority or by the principle of freedom, the leader, sooner or later, manifests himself? Whether he thrusts himself to the front, and seizes the helm of power; whether he be thrust forward by others who feel that he is the man for the hour and the place; or whether, rather than watch the vessel dash itself to pieces while his companions shirk, he reluctantly assumes of his own motion a post he would rather have left to others, is it not true that in every form of social organization the leader, like Banquo's ghost, inevitably appears?

And suppose, now, the society's accepted principle, which but reflects its spirit, be "Exalt yourself; look out for number one; seize the main chance and make the most of it; get all you can and keep it; let others shift for themselves, and devil take the hindmost," what will result? What can result but that the strong will possess themselves of the earth and the fullness thereof, and reduce the weak to a condition of servitude. If a society believes it to be the chief end of man to get to the front and stay there, and to feather his own nest at whatever cost to others, what might we expect of industrial captains but turgid fortunes in the midst of want; what could we expect of statesmen but affected love for the weak and legislation in the interest of the strong; what of rulers but soft words and harsh deeds; what of public teachers but falsehood under the guise of truth and special pleadings in the name of science? And the root of the evil, be it observed, would lie not in the universal fact of strength side by side with weakness, but in the false spirit that begat and sanctioned the gross and anti-social philosophy that each should live for himself alone. And, if such a spirit is still to animate the society, what can it possibly avail to demand simply an overturn of government, a change in institutional forms, and a readjustment of social mechanism? How can the weak unseat the strong and keep themselves permanently in the saddle? And, were they able to do so, what would it boot? Would not society discover that it had but exchanged one form of tyranny and one set of despots for another form and set?

For the foundations of a stable and noble social order we must look elsewhere than to a mere change of rulers and a readjustment of forms; though much readjustment is necessary, and must come. For such a foundation we must look far deeper than to egoism. War has served humanity, and selfishness has done a work; but, if we read correctly the signs of the times, the coming social order will not be based on war and selfishness. A new spirit is in the air. We see it reflected in the sociological column of the religious weekly; in the social and economic studies prescribed for divinity students; in the growing demand at Chautauquas and teachers' gatherings for economic instruction; in the remarkable and wholly unprecedented outpouring of popular sociological literature. We see it, too, in the increasing and more imperious demand for humane treatment of the poor, the criminal, the insane, the feeble-minded,—whom the Romans would have destroyed as we would a noxious weed,—and in the treatment of animals. We see it in the demand for fair play in dealing with weaker nations; in suits at law; in the relations of capital and labor; and in all the concerns of life.

And, much as some economists deride "sentiment," it is to the gradual development of this very sentiment so widely diffused and so variously manifested—known in the home as family affection, in ordinary social relations as kindness, in the community as public spirit and philanthropy, in the nation as

patriotism, and in the world as humanitarianism and cosmopolitanism—it is to this sentiment, so long recognized in the church as the "greatest thing in the world," that we must look, and it is upon this that we must chiefly rely in lifting our society out of the bogs to the loftier plane upon which we trust it is yet to move.

THE WINTER TERM IN HOUSEHOLD ECONOMY.

BY MRS. NELLIE S. KEDZIE.

THE winter term just closed has given to the Household Economy Department much work because of large classes, but the term has been very satisfactory in every respect. Thirty-five girls reported for the lectures, which gave them an hour each day of instruction in the general matters pertaining to foods. The importance of nutrition, the need for the proper food to foster growth of body and mind in every direction, and the responsibility of the woman who plans the food for the household were given thought and attention; while the production of food stuffs, their conditions in the market, and the real value of food materials contrasted with their money value was touched upon enough to make the thoughtful girl ready to consider many sides of the question when she does her marketing.

Some time was spent upon the best ways of preparing foods in order to make them most wholesome, palatable, and nutritious; while table service and table manners were not forgotten. The chemical relations of materials needed only to be touched upon, because the chemistry of the fall term, with that carried on during the winter, had made every girl ready to see, and adapt knowledge gained in one department to thought or work in another.

In the Kitchen Laboratory, fifty-eight girls have worked out their class time, and many are the good things which have been prepared by the ready fingers which have been learning deftness under the direction of quick brains.

The Second-year Class have all made bread, beginning with the yeast, and only finishing when some slices were toasted or made into cheese puddings or bread crumbs. One of the lessons has been to utilize everything brought into the Kitchen Laboratory; and the lesson seemed pretty well learned when one day a very bare bone was put carefully away in the cupboard, and a girl said, "You use everything, so we thought perhaps there was a use for even this, though the cooked meat is all off." They have made biscuits until every girl can make good ones. They have cooked meats in various ways, vegetables in some ways, and made many cakes, puddings, and pies. There have been a few fancy articles of food made—cheese straws, gelatine jellies, and some whipped cream dishes; but most of the work has been on substantial food. The last day of the term they prepared the refreshments for a party given to them and the class in Agriculture by Professor Georgeson and his wife. Thus they have worked one term, forty-five minutes each day, for five days in the week. They have served, on every Monday, a dinner for members of the Faculty, who pay twenty cents each for the meal. Members of the class serve the dinner, while post-graduate students in the same department preside at the table, performing the duties of host and hostess. The other four days in the week, these same Second-year girls have served ten-cent lunches to College people who must stay in the afternoons; and while it is a simple lunch, served as a hurried lunch would often be served in the home, there have been from twenty-five to one hundred persons served every day. In this way the food is disposed of at about the cost of the raw materials, and members of the class have definite practice in work that will make them practical home workers.

Occasionally the china closet upstairs is drawn upon for prettier dishes than usual for the preparation of an especially dainty meal in the office, when the down-stairs rooms are over full, and there is time to spare from the regular duties. The girls always enjoy this diversion; for what girl doesn't love to handle pretty china and good table linen?

The special classes, and those young ladies who are taking post-graduate study have done good, earnest work, and the Tuesday afternoon "athomes," the reception given one of our graduates on her way to take a position in a sister institution of the same character, the practice dinners and teas, are all work done by these classes for their own growth, and the purpose of giving them the self confidence which will enable them to make life pleasanter to those with whom they come in contact.

The very large classes, in the small, inconvenient rooms make the work hard, and sometimes it is a trial to remember that the same amount of work in

convenient rooms would give these same girls much more help and knowledge. But the ready good nature, the cheery interest, manifested by every member of the class has helped over many difficulties. Even when they had to stand in a row and take turns getting flour; when the ovens were so full even a try pan couldn't be put in on time; when an angel food pan was greased by mistake and the sapolio had to be applied vigorously to make it ready for the cake; when the doughnuts were ready to fry before the lard kettle could find a place on the overcrowded stove, and the hungry boys came in numbers before lunch was ready, every girl was steady in her work, ready to laugh happily at the difficulty and remedy it just so far as possible, until today we look back and know that the winter term has been pleasant and full of good work.

No one should expect these girls to all be experts in all household cooking. Who would expect to train any young girl in all the knowledge of even one branch of household work in forty-five hours? That is the time these girls have had. Some of them never cooked any before; some had cooked in their homes; and I find those who have cooked most are those most anxious to learn new ways or better ways than their own.

All, however, have learned something more of the greatest lesson we have in this work-a-day-world—to make their hands follow the dictates of their brains; and the results will be seen on the tables of Kansas homes.

THE STUDENT AS A CITIZEN.

BY PRES. GEO. T. FAIRCHILD.

ALTHOUGH the character of student life in colleges has in this country greatly changed from the old-time system of dormitories under lock and key and guardianship of the proctor or tutor, we have not yet outgrown the traditional notion that students are under tutelage, and therefore responsible for conduct rather to their teachers than to society. Officers of law feel less of authority over a crowd of boisterous students than over any other crowd, chiefly because of this remnant of feeling that they belong to another jurisdiction.

The legal status of students in a majority of States upholds this notion of irresponsibility. The mature, well-educated student is by law excluded from gaining citizenship during an entire course of study, and so seems exempt from responsibility for the general good order of his community. Though he has attained his majority, and retains his right of franchise at his former residence, he seems while at college to be not a man among men, but "one of the boys." Though the reasons for such a distinction may be good from the uncertain interests of a body of students in a college town, it is doubtful whether the diminished sense of responsibility may not bring greater danger to sound morals than student politics could cause.

It seems time that public opinion should be on the side of truer individuality for students by enlarging their personal responsibility as citizens. Every student ought to be held in the esteem of his neighbors directly responsible to society for his conduct, his influence, his duty to general welfare. If possible, officers of the law should come into touch with them as individuals rather than as a body.

To this end, all interested can do much by discouraging those artificial barriers of distinction between students and other people in badges and uniforms, "caps and gowns," and even "yells," relics of segregation adverse to a common citizenship. The people, and especially the press, will do most for a genuine student life, tending toward a speedy recognition of manly responsibility, when they treat these young people and all their escapades as they do other elements of social life about them. The so-called news exaggerates out of all due proportions the games, the frolics, the eccentricities of a student body, and at the same time belittles the responsibility of individual men and women in the body. If popular praise and blame were as carefully distributed among individual students as among citizens of any other class, the eclat of notoriety would soon lose its demoralizing force. The news would go, where it belongs, into the personal column.

With the best possible effort of all concerned, students will still suffer, as other people do, from the temptation of crowds. The spirit of a mob is something not yet analyzed into the individual elements of character. The character of a crowded hall is not the character of any of its members. So the student body in any college or university town needs the best energies of all the people to counteract tendencies to forget the natural responsibility of a student as a citizen of the commonwealth. Students themselves are quickest to see these tendencies; will they be as quick to use their individual character against them? Let us all help these young people to be citizens in every sense of the word.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.

1895-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

A number of students drop out at the end of the term to begin work for the summer.

Little Clinton Brown died Sunday morning of scarlet fever at the home of his uncle, Prof. Failyer.

Washburn College Glee Club will give a Concert on Tuesday evening, March 31st, at the Opera house.

Mr. G. G. Gates, of Topeka, visited the College this morning under guidance of Mr. Sexton, an old neighbor of his.

Mr. E. E. Taft visits College this morning on his way from Hutchinson to Blue Rapids to take charge of the Blue Rapids Business College.

The students chose Gertrude Havens, E. G. Gibson, and F. E. Uhl to represent them upon the INDUSTRIALIST staff during the spring term.

Professors Georgeson and Mayo represented the College at the St. Marys Farmers' Institute, yesterday, the last of a very successful series.

Mrs. Kedzie and Miss Rupp were chaperones to a score of young ladies who attended the Webster and Hamilton Societies on Saturday evening.

Messrs. Smart and De Ford, attorneys from Ottawa, Kansas, were here on Tuesday, taking Dr. Mayo's testimony in a suit over some cattle that died from Texas fever.

Prof. Olin is kept from College duties this week by the illness of his children from scarlet fever. Miss Gardner, '93, teaches the English classes during the Professor's absence.

Dr. Geo. Pritchard of Topeka, formerly State Veterinarian, has given to the Veterinary Department a fine specimen of the bones of a horse's foot showing degeneration resulting from neurotomy, or "nervous."

Harriet Vandivert, Fourth-year, assisted by Jeanetta Carpenter, Second-year, relieved Mrs. Vandivert of all responsibility in the preparation and serving of a "Burns tea" to the members of the T. P. M. Club one day last week.

A dispatch to the Kansas City Star says that Ex-Regent Wheeler is dangerously ill at his home near Nortonville. For some time he has been afflicted with neuralgia of the heart, which has become so serious that his friends are looking for his death at any time.

List of accessions to the library for the week ending March 27th: Mass. Board of Cattle Commissioners, 1896; Secretary of Agriculture, 1894; Secretary of War, Vol. 2, 1894, Engineers pt. 1; Bureau of Animal Industry, 1893-4; List of Subject Headings—A. M. A.; Secretary of the Treasury, 1894, Finance.

The Winchester Star announces the return of a citizen in the following words: "Chase Cole brought his furniture up from Manhattan Tuesday, and has, among other things, a beautiful mahogany table which he designed and made while attending the State Agricultural College there. A school which teaches the students to do this kind of work is a credit to the State."

Through the influence of Senator Peffer, the geological museum is enriched by the gift of a collection of rocks and ores from the United States National Museum. The collection includes ninety-eight specimens, mostly from American localities, and is of much interest and value. It is deposited, for the present, in the south end of the wall-case on the first floor of the general museum.

The Republic, in its report of the Webster Exhibition, has something to say about the programs used on that occasion, viz.: "Neat programs were given each guest. These same programs deserve more than a passing notice. The outer cover was illuminated in a design of oak leaves, acorns, birds, etc., charmingly intermingled, a white panel bearing the words, 'Webster Literary Society, K. A. C.', in red and black. It was a credit to the K. S. A. C. and an interesting souvenir."

The Second-year Party.

"Eat, drink, and be merry," was the motto of the Second-year Class assembled last night at the pleasant home of Professor Georgeson.

Notwithstanding the stormy weather, about seventy-five guests were present. The evening was only too short, as the class listened to music, played games, or heard stories about some quaint bit of bric-a-brac from the far East.

At a timely hour the guests were served with refreshments, consisting of orange sherbet, cake, and kisses. The punch bowl on the table was filled with raspberry sorb, a drink which is true to the sentiment of Kansas.

It is needless to say that the Second-years will never forget the enjoyable evening, for which they are indebted to their genial host, their kind and thoughtful hostess, and Mrs. Kedzie. T. S.

GRADUATES AND FORMER STUDENTS.

F. R. Smith, '93, was a visitor on Monday with Mr. Ingole of Minneapolis.

Pearl Dow, '91, was married, March 11th, to Francis W. Peck, of New York City.

G. W. Smith, '93, is author of the music in the '96 class song of the graduating class at the State Normal.—*Students' Herald*.

M. C. Findley, student in 1892-3, who, as noted last week, graduated recently from the University Medical College at Kansas City, has located in Baldwin to practice.

S. H. Carnahan, student in 1883-84, writes from College Place, Washington, where he is Postmaster, asking for a catalogue as a guide in industrial work for the College there.

J. E. Payne, '87, stopped at College a few days this week on his way to Cheyenne Wells, Colorado, where he takes charge of the irrigation experiments for the Colorado Agricultural College.

Ben Skinner, '91, took first place in the examinations at the Kansas City Medical College, last week, and won the prize of \$100. J. D. Riddell, '93, is also a member of the graduating Class.

J. E. Taylor, '94, was at the College a few days this week. He is taking the normal course at Baker University preparatory to the State examination in May, it being his intention to become a teacher.

W. A. Anderson, '91, was at College for a day the first of the week on his return from Leonardville, where he was called by the death of his mother. Mr. Anderson is book-keeper for a wholesale lumber company at Van Buren, Ark.

The announcement is received of the marriage of Clarence V. Holsinger and Olive M. Wilson, both of '95, March 19th, at the home of the bride's parents, Austin, Illinois, a suburb of Chicago. The happy couple will be at home at Rosedale, Kansas, after April 6th.

Shop Notes.

A useful addition to the equipment of the foundry is a tumbling barrel for cleaning castings, which is being built. It is four feet long by two feet in diameter, and will be placed just outside the building at the west end of the iron shop.

During the month past the machine shop boys had a little practical experience in refitting an old engine belonging to Ulrich Bros.

A "Jumbo" windmill is in process of construction in the wood shop. It is fourteen feet long by eight feet in diameter, and is designed so simply that any farmer, with hammer and saw and a little help from his blacksmith, can build it. It will be set up on the ash pile south of the boiler house where its capabilities in the line of power, strength, etc., in a Kansas breeze can be tested.

About a dozen desks of various designs are nearing completion in the wood shop. Nearly all are being made to take home by the students working on them.

E. H. WEBSTER.

Sorghum Seed for Sale.

The Chemical Department has for sale improved sorghum seed of the several varieties which have proved to be the best in the past years' experiments. An account of these sorts of sorghum will be found in the bulletins of the Station. The principal kinds are Early Amber, Folger's Early, Medium Orange, Kansas Orange, Collier (undendebule), Colman (a cross of Orange and Amber), Denton (another cross).

We have limited quantities of specially selected seed of most of the sorts. Address, G. H. FAILVER, Manhattan, Kansas.

COLLEGE ORGANIZATIONS.

March 21st.

Pres. Webster called the Websters to order at 7:30, after which E. G. Gibson led in devotion. Debate opened the program of the evening. It was on the question, "Resolved, that the United States should have free and unlimited coinage of silver at the ratio of sixteen to one." G. Doll and F. Windscheffel argued for the affirmative. They said that in 1873 silver was demonetized without the knowledge or consent of but a few. When it was demonetized it brought on a panic. Free coinage is the only remedy for our difficulties. A. K. Barnes and W. B. Banning spoke on the negative. Free coinage would be against the rule and the coinage should be limited in amount, in order that we can be on equal terms with the nations with which we deal, as many of them have gold standards. The Society decided in favor of the negative. Roll-call showed that two-thirds of the Websters were present. The rest of the chairs were occupied by lady visitors. The next number was a vocal duet by the Misses Pfuetze, accompanied on the piano by Miss Bowen. E. H. Webster presented a good edition of the Reporter. A. E. True gave an impersonation of Mr. Spoonerdyke's adventures. After recess M. Snodgrass gave an interesting discussion on "The prospects of Western Kansas." J. B. N.

March 20th.

The last session of the Ionians for the term was well attended, and after opening exercises, consisting of song and prayer, the program was taken up. The first number was a recitation by Isabella Symms,

followed by a piano solo by Mrs. J. E. Cooper. The Ionians showed their appreciation by uniting in a hearty encore, to which Mrs. Cooper responded. The second chapter of a very thrilling continued story was read by Clara Long. This was well written, and had the essential feature of a continued story—that of quitting just at the most exciting place. A medley by eight Ionians contained such familiar strains as "Auld Lang Syne," "Paddle Your Own Canoe," "Tut, Tut," "In the Starlight," etc. A new feature of the program was that of several one-minute talks. The first, on the "X Rays," was discussed briefly by Stella St. John. "Should we feed the tramp?" was argued pro and con by Emma Finley and Bessie Hall, respectively. "The desirability of charging admission to Society lectures" was discussed by Emma Doll. Winifred Houghton, in a pleasing manner, gave the causes and effects of the recent troubles in several of our State Colleges. An excellent edition of the Oracle was read by its editor, Myrtle Hood. A beautiful vocal duet was rendered by the Misses Pfuetze. Tacy Stokes' impersonation was certainly a great success. Susan Johnson was committed for parliamentary quiz. Clara Long rendered a piano solo. Probably the best feature of the program was a toast, given by Louise Spohr, to the other Societies. W. L. Hall, of the Hamilton Society, gave the response. O. A. L.

Grounds and Buildings.

The College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing towards the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard, and sample gardens attached, the whole being surrounded by a durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape gardener, while well-graveled drives and good walks lead to the various buildings. All of these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recitation rooms are excellently lighted and ventilated, and are all heated by steam or hot water. A complete system of sewerage has been provided.

College, 152x250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices, reception room, cloak rooms, studies, chapel, library, reading room, kitchen laboratory and dairy, sewing room, society rooms, printing office, and twelve class rooms.

Chemical Laboratory, one story, 26x90 and 46x75 feet of floor space, in form of a cross. It contains eight rooms, occupied by the Department of Chemistry and Mineralogy.

Mechanics' Hall, 39x103 feet, two stories, and 40x80 feet, one story, occupied by wood and iron shops, music rooms, iron foundry, lumber rooms, etc., in addition.

Horticultural Hall, 32x80 feet, one story and cellar, having cabinet room, class room, and storage, with greenhouse attached.

Horticultural and Entomological Laboratory, with propagating houses attached.

Museum Building, 46x96 feet, and two stories high. This building, which has served many purposes, is now fitted for an armory, drill room, and veterinary laboratory below, and for class room and laboratory for Department of Botany and Museum of Natural History above.

Science Hall, containing the library, with ample reading rooms; class rooms and laboratories, and cabinet room for zoology, entomology, and botany; and suitable rooms for the various College societies.

Appropriation is also made for a central steam plant, to furnish heat and power for all the buildings. This plant is to cost \$14,000, and will be completed in the fall of 1893.

The farm barn is a double but connected stone structure, 50x75 feet and 43x96 feet, with an addition of sheds and experimental pens 40x50 feet. A basement, having stables for 75 head of cattle, engine room, and granaries, underlies the entire structure.

The horticultural barn is a stone building, containing store-room, granary, and stables for several horses.

The foundries, lumber house, implement house, piggery, and various out-buildings are of wood.

Two stone dwellings, occupied by the President and the Professor of Agriculture.

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week day except Saturday, and no student may be absent without excuse. Unexcused absences are taken into account in calculating grades. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy 15 minutes before the meeting of classes each morning, and unnecessary absence from them is noted. On Sunday no services are held in the chapel, but students are urged to attend the different churches of the city.

Every Friday, at 1:30 p. m., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the Third- and Fourth-year Classes. Once a week all the classes meet, in their class rooms, for exercises in elocution and correct expression.

There are four prosperous literary societies which meet weekly in rooms set apart for their use. The *Alpha Beta*, open to both sexes, and the *Ionian*, for ladies, meet Friday afternoon. The *Webster* and the *Hamilton* admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the second and fourth Friday evenings of each month.

Branches of the College Y. M. C. A. and Y. W. C. A. hold weekly meetings at the College, and a union meeting on the first Friday evening of each month.

Once in each term the College Hall is opened for a social gathering of Faculty and students, in which music, literary exercises, and friendly greetings find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

The Up-To-Date Farmer.

The fact of the matter is, that the modern successful farmer is a professional man, in the very best sense of the term. The necessity for men of high intelligence and broad knowledge is no greater in the "professions," as we now speak of them, than in the farming industry. The up-to-date farmer must be, in a small degree, a scientific man. He cannot draw solely on his own experience for proper methods any more than a lawyer or a physician can. He must be familiar with theory as well as practice; must be well-read in the best literature of his class; must thoroughly know the text books of his trade. Equipped with both a scientific and practical understanding, the modern progressive farmer is no ordinary, every-day person. His work is not only honorable, but one that demands the brightest sort of intelligence for its practice. There was once a time when people went into farming because it was "so easy." All you had to do was to plow and sow and reap. Nature took care of the rest, and the farmer was supposed to lead an enviable life. Farmers' sons are made to learn their fathers' business, as the only available occupation for men of small intellects and little or no mental cultivation.

All this is changed; stupid men are no longer needed. Neither the stupid man, nor the one of ordinary ability can follow farming without starving. Mother Earth refuses to yield her favors without a good deal of coaxing, and it takes a scientific man to coax her successfully. The value of fertilizers; the need of different soils to make them productive; the proper rotation of crops to renew the life of land; the care of trees; their protection from the various insects that infest them, necessitating a familiarity with the habits of such insects; the best modern methods of butter and cheese-making, with the mechanical skill necessary to properly manage the modern machinery of the dairy; these are a few of the things the farmer must know. In addition to the great information suggested in part by the above, with which he must be in close touch, he must have a business tact, a commercial common sense, in order to get the best prices for products and to market them economically.—*The Southern Cultivator.*

Preserving the Soil.

It is questionable whether a man has the right to deliberately and systematically kill the soil or rob it of its fertility even though he be its owner. Mother Earth was given to him to improve and not to impair; a ward entrusted to his care for protection and not abuse; a trust estate to build up and not to wreck. The indifferent, haphazard, and reckless culture of the soil, if culture it can properly be called, by which soil-fertility is lessened every year, is a perversion of the trust and a disregard of plain duty.

The fact is that science and intellect should be employed in shaping the system of agriculture, so that the soil shall not only be preserved, but its fertility increased year by year. The producing capacity of an acre has never yet been reached. "A good master makes a good servant." If this maxim is true, the farmer who would preserve the fertility of his soil must cultivate his own powers, and the more thought and care he bestows on his farm will result in better results from his soil. The matter of preserving the soil takes in a wide scope, including all lines of activity.—*The Southern Cultivator.*

False Economy in Farming.

A man who understands his business is Farmer Streak, but somehow he never seems to get ahead very fast. He is considered a saving man, too. If a friction match is wasted, Streak will lament the loss, although it does not seem to worry him that wood enough for several cords of matches has been used each year in driving the sap from the green stove wood which half the time is the only kind he provides. A quarter's worth of powder for the boys to celebrate the glorious Fourth he considers a sinful waste, but ten times that amount consumed in his pipe is nothing of the kind. He rakes the hay field as with a comb to secure the last wisp of hay, but he loses dollars in its value by cutting too late in the season. Of things bought at the store not so much as a pinch of salt is wasted, but last year he allowed to decay enough early apples to have paid his taxes, although the fruit would have sold readily in Boston. Papers, books and church dues he has never felt able to afford, but he has a little mortgage on his farm as the result of endorsing a note. That is Farmer Streak—careful with cents and careless with dollars. Do you know him?—*Massachusetts Ploughman.*

Better Road Laws Needed.

The road tax system of personal service commutation is unsound as a principle, in its pretensions, and wasteful in its practices and unsatisfactory in its results. Some system should be devised, based upon property, and property owners should not be exempt on account of age. As the case now stands, some families escape any road tax, year after year, all of the members being either too young or too old, but they are abundantly able to do their share, and use the roads quite as much or more than anyone. In the meantime, their poorer neighbors, tenants it may be, or young men without land, must leave the crops in a critical condition, at the whim and convenience of the roadmaster. Often the worst piece of road is untouched, and a bit suiting the roadmaster or his friends is worked after a fashion.—*Kansas Correspondent, Farm and Home.*

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

Principal A. T. Reed, lately teacher at Salina, is now principal of the schools of Aspen, Colorado.

Elder A. C. McKeever, of Garden City, has been elected President of Bethany College at Bethany, West Virginia.

According to the manuscript for the annual catalogue, now in the hands of the State Printer, the total attendance at the Kansas State University is 890, an increase of 15 over last year. Of the number 564 are men, and 326 women.

The well-known Kansas publisher, G. W. Crane of Topeka, has published a very neat edition of "The Rhymes of Iron Quill." The book deserves a place in the library of every lover of verse and sunflowers; it is Kansas, every word of it.

Chancellor F. H. Snow has purchased a new bicycle and is now learning to manage it. The scene of his exhibitions is on the top of Mount Oread, near his residence. It will be but a short time until he will have mastered the wheel. For some time past he has been afflicted with ill health, and he purchased a bicycle for a health restorer.

A special election will be held in Kansas City, Kansas, on April 14th for the purpose of voting upon the proposition to issue \$100,000 in bonds to improve the City Schools. The Board of Education has mapped out a number of improvements that are necessary, and the people will be asked to vote bonds to carry out the plans. The schools in each of the wards are to be enlarged, and in several places new buildings will be erected, providing the proposition carries.

Prof. C. N. Walker, Principal of the Greystone School in Kansas City, Kansas, had his right foot badly crushed between the drawheads of two freight cars. He was on his way to the school, but found Bellevue Avenue obstructed by a train, and, to save time, he climbed two of the cars. The train started suddenly, and his foot was caught between the drawheads. Prof. Walker was taken to his home in the patrol wagon. It is feared that the foot will have to be amputated.

Governor Morrill has issued a proclamation setting apart April 15th as Arbor Day. In it he says: "I earnestly request that said day be set apart and especially devoted to the planting of trees and shrubbery. The grounds surrounding our public buildings, our churches, and school houses should be beautified and made attractive. The man who plants trees around his home, who makes it pleasant and inviting, benefits and blesses not only the members of his own household, but all who come in contact with it. The youth of our State should be taught to love the beauties of nature, and this can best be done by interesting them in the culture of trees and flowers. To this end I earnestly invite the attention of the school boards and all others who have the highest interests of our State at heart."

Prof. S. W. Williston of Kansas University has been invited to become a member of a scientific expedition which will leave New York next September for a five months trip to Asia, Africa, and the East and West Indies. The expedition will be under the leadership of Prof. Hite of the Philadelphia Academy of Sciences, who was a prominent member of the Peary relief expedition last year. Prof. Hite was formerly in the University of Kansas. The object of the expedition will be scientific research. The plan of its projectors is to invite as members professors of the leading colleges of the United States, who will afterwards deliver lectures on the literature, languages, and geology of the countries visited. Prof. Williston has been offered the appointment of geologist of the expedition. The steamship "Ohio," of the Great American Steamship Line, has been chartered for the trip, and is now undergoing extensive repairs in preparation for it. The itinerary of the expedition will be through the Mediterranean sea; up the Nile to the pyramids; through the Isthmus of Suez to Bombay, Java, Sumatra, and Australia, and return via Madagascar and the Cape of Good Hope to the West Indies. The Professor has not decided, as yet, whether or not he will join the expedition.

In completing the plans for the work of the season that is now close at hand reference should be had to the farm operations of the future as well as those of the present. There are a good many crops for which the work of preparation should be commenced the year before they are to be grown. In fact, all crops hold such a relation to each other that what is grown in any given year will be influenced in character and yield, and also in the expense attending its cultivation, by the way the land was prepared and by what is produced the preceding season. Thus the cost per bushel of growing onions on land that last year was permitted to become foul with weeds will be much greater than it would have been if clean culture had been given to the preceding crop. So with all crops. Each and every one should, for its own sake, be placed upon soil which is adapted to it, be kept free from weeds and be given thorough cultivation. Experience has shown that such a method pays immediately and pays liberally. But, if any additional incentive is needed, it can be found in the fact that in the production of the crops of next year the influence of this course will be as beneficent as it will during the present season.—*Practical Farmer.*

A Good Education Pays.

1. In dollars and cents. All testimony of statistics agrees it, showing that educated laborers of all ranks have better work and better wages than the uneducated.

2. In influence and position. Careful estimates make it certain that the chances of promotion to places of trust and power among men are almost two hundred times as great to an educated man as to the uneducated man.

3. In usefulness. The bulk of good work in the world—discovery, invention, government, philanthropy, and religion—is brought about by those who learn to think by study.

4. In enjoyment. Our pleasures grow out of what we are ourselves more than from surroundings. A well-trained man sees, hears, and handles a great deal more of the world than an untrained one. All things do him more good, not so much because he owns them as because he understands them. He always has good things to think about.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

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Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popenoe, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

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"A JOG TO THE SMELTERS."

BY JULIA R. PEARCE.

THESE were the words which greeted us on the cover of neat little booklets handed to the members of the American Library Association last summer in Denver, asking us to spend an afternoon in the great smelters. Many of us did not fully realize what was in store for us, but felt afterwards that we owed much to our Denver friends for the rich experience they had given us, even if the greater part of the information received did get very carefully confused. The special train awaiting the party took us out two or three miles to one of the leading smelters, where the rough ore from the mines of Cripple Creek is changed to gold and silver bullion.

The first smelter we visited had the ore, as it came from the freight cars, dumped in piles on the floor, not only each mine to itself, but the ore from each mine was often divided into separate piles, each representing a different grade of ore, and each pile heated up in a separate furnace, with its own special treatment.

During the afternoon, we visited two of the leading smelters, representing two distinct methods of smelting. The Omaha and Grant use the lead process, which I hope no one expects me to describe. I can tell you simply what I saw, and those of you who are better versed in such things can, perhaps, fill in for yourselves the go-between processes. We first took a look at the rows and rows of freight cars with their loads of very common-looking dirt, which gave no suggestion whatever of the precious metals it contained; then we saw the ore taken from the car and, instead of being piled up neatly on the floor as in the first smelter we visited, it is here all in one pile, but in clean-cut layers, built up something like a geologic column, each streak representing a different ore from a different place. Now here is a chance for some of you to fill in an explanation with your superior knowledge or imagination, for it is a puzzle to me how those layers were ever taken out without getting slightly mixed.

We were now taken out into a large enclosure of some two or three acres, which covered a network of underground furnaces. Each furnace was easily located by a huge kettle of red, molten material, the top of the kettle level with the top of the ground. These showed the furnaces below to be arranged in rows on each side of streets, or aisles, the ground in these aisles being cool enough to walk on. The air, radiating from these immense kettles of ore, so hot that the liquid seemed as thin as water, was anything but comfortable. Some of us put up our parasols to shield us as we walked down the aisle, and had the satisfaction of seeing our parasols get suddenly weak and the cloth split at every section. We expected our hair to sizzle up and disappear any minute, and I was sure my eyebrows and eyelashes were gone as soon as we entered the place. We carefully, very carefully, followed in the track of our guide, but if any did happen to step too far to one side, he soon found out his mistake for himself, and came quickly back to the straight and narrow path.

Suddenly somebody gave a shout and we all hustled away, as we were told that the contents of one of the kettles near us was done and the whole thing would be hoisted into the air. The lead melted with the ore had taken the valuable material to the bottom of the kettle, and the slag being lighter was on the surface of the liquid. This was first drained off by a tap in the kettle at the proper level, into kettles on wheels, and rolled away to be re-smelted for other metals. The particular kettle we were watching had the material in its last process, and the liquid left in the kettle after the slag was taken off was pure silver. A huge derrick groaned around into place, hooked up the handle of the kettle, and slowly the great vessel with its molten mass rose into the air. It was hot in that neighborhood, but we were too interested to notice the heat. A smaller kettle on wheels rolled along under the one swinging; a man, with a long spike in his hand, ran up and thrust it quickly into the bottom of the kettle, and away again. We had seen no signs of a hole in the bottom of the kettle, but that man must have known the kettle's weak points, for, in response to the thrust, the red liquid came pouring out into the vessel below. Some of it spattered over, and after the peculiar wheelbarrow with its precious load had gone on its way to the molds some of us, seeing those splashes cool into bright lumps of silver, were rash enough to try to

pick up a few, and did not even give up when we saw them drop right through the handkerchief we put them in. A few of us did manage to conquer a few small pieces, but at the expense of blistered fingers. Seeing the bright silver taken out of that poor, cheap-looking dirt, made us feel like coming home and melting up our own garden patch and seeing if we couldn't get a small brick of silver out of it.

We watched the silver poured into the molds, and were then shown some bricks already cooled, allowed to lift them, told their exact value and dimensions, which I immediately forgot, and we were told the train was ready to carry us back to Denver.

THE FARMER'S HOPE.

BY RUTH TIPTON STOKES, '92.

THE farmer, his interests, his home, and his condition form the basis for much of the talk, the thought, and the work of the intelligent people of today. And why not? The farmer is our most important citizen, both as consumer and producer. We look to the farm for everything that makes us comfortable and happy. We have always found it adequate to supply every demand, and a never-failing source of good things. To the farm we look for our noblest types of manhood and womanhood; in time past it has given to us the majority of our doctors, our lawyers, our professors, and our presidents.

There is something about farm life that develops all that is purest, noblest, and best in people. Their minds broaden as they view the vast fields of waving grain; they are made sympathetic and tender by being brought in contact with the weak, helpless things in nature. The care which must be given to a tender plant or helpless animal cannot but leave its impress on the character. Yet, with all these natural advantages which go to make farm life the most enviable and enjoyable, there is much about most farm homes which might be greatly improved upon.

Ofttimes, the furnishing of the farmhouse is not what it should be, to be in keeping with the farmer's financial position. No improved machinery or helps to make work easy are found in the house; the farm sheds and storehouses are filled with the latest inventions of all sorts to make work light, while the work in the house must be done in the hard, inconvenient way which has been the method for ages past. Farmers do not intend to neglect these things; all that is necessary is to make them realize the need, and the supply will be forthcoming.

There are farm homes which are supplied with every convenience, furnished well and comfortably, and yet the people fail to come up to the high standard of living which is so desirable. Some way there is a feeling among many that because they live in the country they will not, or rather do not, live daintily. In nothing is this so noticeable as in the preparation and serving of food. There are people in this enlightened age who seem to think that meal time is the momentous occasion upon which they must exert every effort to satisfy the pangs of hunger. To them eating is one of the necessary evils; and the less one thinks about it the better. "Just so folks get enough to eat," it makes no difference how the food is cooked or how it is served. In no place is this idea so prevalent as it is in the farm-home kitchen.

Of all kitchens, the farm-home kitchen is capable of the greatest possibilities. It is here that we find the materials in abundance which are so necessary in the preparation of all articles of food. Many farmers think that they cannot afford to use these materials lavishly; they must be taken to town and given in exchange for articles which are not as nourishing, and which in the end do not give the satisfaction that their own products would give had they been used to the best advantage. The greatest reason for this state of things is, first, not knowing just what is the best ways to use the materials at hand; second, not beginning or planning for a meal long enough before meal time. At such times it is a hurry to get something together; the question is not, What is the best way to prepare an article of food? but, What is the quickest way? Many farmers' wives feel that everything which comes to the table must be strong, greasy food. The fried pork, fried potatoes, strong coffee, and all the other strong foods which only the farmer's wife knows how to prepare, are served from day to day as though nothing else would satisfy the appetites of her hungry family. Things are fried until it seems there is no other way of cooking them.

Some one has said: "The frying-pan is the curse of the American nation. The poor, hurried housewife would bake her biscuit and boil her coffee in it if she could."

If the cooking is good, many times little thought or care is given to the serving. Things are placed on the table any way to get them there. It does not take any longer to set the table in a careful, orderly way if one gets in the habit of doing so. It is just as easy to cut the bread in thin slices and make it in an even pile in the center of the plate as it is to put it on in the helter-skelter fashion so often seen.

A table set with some plan and method, with daintily prepared food, shows more refinement than almost anything else one can do, being in itself a definite educator. It is surprising what a degree of elegance a little care will lend to the looks of things, and how it will have its influence upon one who sees it; a few morning-glories, with their own green leaves placed in a low dish bring, a brightness and cheer to the breakfast table which makes an unpleasant word, a soiled table-cloth, a carelessly prepared dish of food, or an unkempt head seem out of place. It is no extra work; all that is required is a little thought and a little care.

Yes, to be sure, farmers are busy people; but they must not, they dare not, be so busy that they fail to live the best lives that can be lived, in the best possible way.

There is no reason why James should have his best suit of clothes made of coarse material, or why they should not fit as perfectly as do those of his city cousin. There is no more excuse for him to eat with his knife or drink coffee out of his saucer than there is for a senator from Kansas so doing; and then, too, James may be senator himself some day, and he wants to know how to act; he does not want to be embarrassed and put to shame by not being able to do things properly. To be sure, the corners will get knocked off in time, but if he could begin right, it would be much easier for him, and more pleasant for his friends.

The fact that Ann lives in the country does not justify her in dressing in unbecoming colors, or the buying of cheap, shoddy gowns and dowdy hats. Ann loves pretty things as well as any one, and no one has a better right to them than she who lives where everything is so beautiful; the flowers are always just the right shade to look best with their own surroundings; the trees have just enough foliage to make them symmetrical and not over-loaded. It is only the people who get themselves up in incongruous ways, and look awkward and out of harmony with nature. Just so long as the farmer neglects the courtesies and little niceties which alone can make life worth the living, farm life will fail to reach the high standard of which it is capable. While the farm in time past has given to us our best men in all the professions, the time has come when it can be so no longer unless the farm is raised to the same standard as the homes of the towns. The development of the home depends almost entirely upon the wife and mother; the one who follows the highest and noblest profession—that of home-making.

The home-maker must have a wider knowledge than one in any other profession. She will be called upon to make use of knowledge in all lines. She must be a mathematician; by expansion she is often required to make a garment out of four yards of goods when five is the required amount; by contraction and transposition she must often make two old dresses into one new one; the addition of fractions comes in by being able to take the fractional parts of several articles of food of today's dinner and prepare from them a savory and appetizing dish for tomorrow's luncheon. She must be a physician, surgeon, and trained nurse, as she must know how to administer simple remedies; she must know what is the best thing to do for a cut finger, a burnt hand, a poor, little aching head, or a stubbed toe; she must be a chemist, as she must know about the composition and nutritive value of foods, and the right way to combine the different foods to produce strong, healthy bodies and minds. She must be an artist; her table must be a picture in itself because of the daintily prepared food and artistic arrangement. She must be a politician; not that she desires or expects to vote, as most housekeepers find that they have enough rights already, but she must understand politics so that she can persuade her husband and train her sons to vote intelligently. She must be a musician, as by the systematic planning and arrangement of her work there will be no rush and hurry, but all will work together so easily and smoothly that to the household the result will be sweet and harmonious. Her sphere has no limit. She must be everything for the sake of everybody; she must

know everything, as she must do or direct the doing of everything.

Until within the last few years, it was thought that every woman was born with the knowledge of how to keep house, and when the time came for her to go into a home of her own, she would take to house-keeping as naturally as a "duck takes to water." People are now beginning to realize that some thought must be given to this all-important subject. Domestic science has steadily been gaining ground for the last thirty years; up to that time, it had received but little attention; now there is opportunity for a favored few to receive instruction in the household arts. There are schools of cookery and sewing in most of the large towns, and these studies have been added as industrials to the course in many of the agricultural colleges. As yet, many people have not been made to realize how important it is that they should give as much attention to the education of their daughters in this line as they do to the education of their sons in any profession which they may choose.

Every farmer especially should give this more careful thought and attention; it is the farmer's daughter who has least opportunity to become educated in these lines; and yet you farmers of Kansas are more favored than those in many other States; you have a college in your own State which ranks among the first of colleges of its kind; it is intended especially for the education of your sons and daughters. They not only receive a good, thorough education, which is an excellent foundation for any pursuit in life, but your sons have an opportunity of seeing farm work done in different ways, and to decide for themselves which is the best method for them to adopt, and your daughters learn to cook and sew in the best way, and the tone of the work is changed—the work is guesswork and drudgery no longer, because the doing becomes a science. These branches rank with the others; they receive the same time and attention that any branch in the course of study receives. The work in these industrials, instead of being an extra burden, is a recreation and pleasure, because it is such a change from the other college duties.

The much-needed change in farm life cannot be brought about by the already overburdened mother, who, like Martha of old, is "careful and troubled about many things," nor can we expect much from the busy, well-meaning father; they have become accustomed to doing their work in certain ways, and any other way, to them, would mean failure.

The farmer has a hope which will lead him surely and safely into the way of a higher standard of living and a nobler, better life. The hope of you farmers of Kansas is in your sons and daughters; not that they will naturally grow, and be all that they can be, but because they can be educated and become all that they are capable of becoming. By giving your sons and daughters the proper education, they will as truly become the guiding stars of your lives, of your homes, of this your own loved Kansas, as was the star of Bethlehem the guide of the wise men of the east.

All labor will be ennobling and uplifting. The man who plows the field and sows the seed, while attired in his simple, homely garb, is as truly a king of manhood as the silver-tongued orator or the eloquent preacher; the housewife who washes the dishes and cooks the steak is the queen among women; while her husband feeds the cattle according to the rules of balanced rations, she prepares the food over the stove, knowing the right proportions of nitrogenous and carbonaceous food needed to produce strong muscles and clear intellects. That work is excellent just so far as brain is used, and brain is good just so far as the proper food is given for its nourishment; this brain is needed to perform even the most menial duties, and no work is degrading unless poorly and ignorantly done; it is the thought which is put into the work which gives dignity and power to the laborer.

Thus will the wise men of Kansas live up to their best opportunities, making farm life all that it can be made, planning as carefully for the education of their daughters as they do for the education of their sons, helping their daughters to become the prudent, thrifty housewives of the next generation; and then will Kansas men and women be the ideal types of manhood and womanhood; and then will the Kansas home become the model home of the nation, and the melody of its song will be heard in every land.—A paper read before the Kansas State Board of Agriculture.

FARM NOTES FROM VARIOUS SOURCES.

The *Florida Agriculturalist*, in speaking of the farmer's life, remarks that he "has that comfort, that supreme luxury, the consciousness of honest toil and independence which the hireling and the drudge in the crowded centers of commerce and among the whirl and buzz of machinery in the manufacturing cities can never know and never enjoy."

Bulletins from the agricultural experiment stations should constitute valuable additions to the farm library. The husbandman who fails to keep well abreast of the times as to the comparative value of the various modes of planting, cultivating, feeding, etc., under the varied conditions which confront him in climate, elevation, soil, moisture, is at a disadvantage.—*Farmer's Guide*.

"When it rains soup," said a man who is chronically complaining of hard luck, "my plate is always upside down." But why does he not turn it up right and catch his share of the soup? In most, if not in all cases, the fault is rather with the man than with the plate. Opportunities come to almost every one of us, at one time or another. But we must be ready to take hold of them. He who does this is the lucky one; he who lets the opportunities slip by unused is the one in "hard luck." And opportunities once gone by are gone forever. One cannot run the mill with the water that has passed. Unfortunately, we see many of these golden opportunities only when it is too late.—*Colman's Rural World*.

All the public libraries should contain a due proportion of agricultural literature. This is especially true as to libraries in smaller cities and districts. And in my opinion, every country school should be supplied with standard works on agriculture, and the elements should be taught so far as practicable. If I was a district school teacher, I would subscribe for a good agricultural paper to be used as an aid, or text book, in teaching some of the principles of the science. The best way to make young people stick to the farm is to incite a lively interest in the science of farming. The boy who acquires a knowledge of the rudiments finds his summer tasks greatly lightened by a quickened interest in his vocation. The successful farmer is the man who has farming on the brain.—*Live Stock Indicator*.

There are a great many farms, in various parts of the country, which are pretty well supplied with the large fruits, such as apples and pears, but upon which few or none of the small fruits are grown. This is not as it should be. In sections where they thrive (and varieties of these fruits can be selected which are adapted to almost any part of the United States), the grape, raspberry, strawberry, and currant ought to have a place on every farm. If properly managed it costs but very little to grow a sufficient quantity for family use. Each and all of these fruits are both palatable and healthful, and instead of being regarded as luxuries, they should be classed with the necessary articles of diet. Farmers who have thus far been remiss in the matter of securing vines and plants, will do a good thing for their families, as well as for themselves, if they promptly attend to the selection and ordering of a supply to be put out the coming spring.—*Practical Farmer*.

The care which men in the business would take of perishable property is generally understood. If it be products for shipment which quickly deteriorate, high speed in transit is paid for. If temperature affects them, refrigerator cars are provided, although they cost more money. If frost is feared, protection is furnished. All this is done because it is felt that it is profitable to do it. The farmer is the owner of a good deal of perishable property, or property which may be quickly perishable if not properly cared for. His implements are of this character. Mowers, reapers, and plows, and all the various farm machinery, now so generally used on a farm, become useless and have to be replaced after a very short time if it is exposed to the weather. The farmer who wants to conduct his business profitably must take a hint from other business men, and provide against the loss which his machinery is sure to sustain if left exposed to the elements. This is a suggestion that has been made so often that it seems like an old, old story, and yet one can not ride a day's journey through the country without meeting with evidence which shows that it is still necessary to repeat it.—*Homestead*.

It is easier for us to see the mistakes of others than our own. In looking about I see one farmer carrying his corn from his crib a few rods away from his barn to feed his horses, all because he desires to keep the rats out of his barn. I see another who has dug a trench forty rods long and put in that many rods of piping in order to get water to the stock in the pasture, which is that distance from the source of supply. I see him going down there in the summer time with his teams for water. He could have fenced a lane to the source of water supply, saved the piping and saved the time of going to the watering place forty rods distant three hundred and sixty-five times a year. I see many farmers putting many dollars into shallow wells that cannot be utilized for post holes when they go dry, as they will. Neither can the money so expended be afterwards applied in putting in a good tubular well. I made this mistake myself once, and it was one of the expensive ones of my life. I once sowed some wheat that had a little rye in it, because I had no fan. The time it took to rid the field of the rye would have made a good payment on a fan. I once went hunting with a good pair of rubber boots on, and when I returned I had two quails that cost me a pair of \$4.00 gum boots—snagged and ruined—to say nothing of the ammunition. Learning by somebody else's experience is cheaper than by your own, and we can learn something by keeping our eyes open whenever we ride past our neighbor's farm.—*Live Stock Indicator*.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Judge W. B. Sutton of Russell was one of the visitors at College yesterday.

Bessie Tunnell is in classes after a winter of teaching near Winkler's Mill, on Fancy Creek.

Prof. and Mrs. Emch, of Lawrence, visit this week with their parents, Prof. and Mrs. Walters.

R. S. Kellogg, Fourth-year, is spending a few days at home, in Russell county, with his mother, who is sick.

Mr. A. M. Smith, buyer for a produce house of Boston, finds much of interest in a visit to the College today.

Professors Mason and Sears are writing for the *Kansas Farmer* a series of articles on "Small Fruit Culture by Irrigation."

The Cooking Class on Wednesday evening served the usual tea of the Spring Term to the Regents and Faculty, to the satisfaction of all concerned.

Leah Reyburn returned to classes this week accompanied by her sister, Mrs. L. Hawn, of Leavenworth, who will probably spend several weeks here.

Professor Failyer, of the Agricultural College, is one of the up-to-date educators who rides a wheel in preference to a hobby.—*Kansas City Journal*.

The last vacancy on the Board of Regents is filled by the appointment of Hon. Samuel J. Stewart, a practical farmer of Humboldt, Allen County.

The Executive offices and Library gain splendid new Remington typewriters by appropriation of the Board, half the cost being provided for by exchange of the old machines.

The Fourth-year Class today elected officers for the spring term as follows: C. E. Pincomb, President; May Bowen, Vice-President; E. H. Webster, Secretary and Treasurer; R. K. Farrar, Marshal.

Regent Daughters reached College Monday from the east, and remained for the meeting of the Board on Wednesday, glad of the opportunity for leisurely inspection which the man of business in this work-a-day world seldom has.

The last quarterly report of Secretary Coburn of the State Board of Agriculture contains 230 pages of matter fresh and juicy, and yet boiled down to the most palatable condition of sweetness. More might be said, but the fact that a half dozen of the Faculty figure in its pages might suggest self praise. Everybody should send for the *Corn Quarterly*, to F. D. Coburn, Secretary of State Board of Agriculture, Topeka.

The Veterinary Department has received from Dr. Francis of the Texas Experiment Station a fine collection of ticks which are parasitic upon domestic animals. The collection embraces the following species: *Amblyomma unipunctata*, or "Lone Star" tick, which is found on horses and dogs; *Boophilus bovis*, Southern cattle tick, which conveys Texas fever to susceptible northern animals; *Dermacentor americanus*, infesting the ears of cattle and dogs, not common; *Rhynchoporion spinosum* (Marx.), "Ear tick" of cattle; *Argos americanus*, chicken tick.

The Sixth Division of the Fourth-year Class entertained the audience in chapel this afternoon with the following program: Music, Cadet Band; "Friendship," Sue Long; "Luck versus Wealth," A. C. Peck; "The Hebrews and their Future Exodus," C. E. Pincomb; "Indian Employees and the Civil Service," W. E. Thackrey; Instrumental Duet, T. L. Jones, Lorena Helder; "The Typical American Woman," Etta Ridenour; "The Reforms of Peter the Great," H. N. Rhodes; "National Prejudices," L. W. Pursel; "Woman's Wages," Sadie Stingley.

Capt. E. B. Bolton, Professor of Military Science at this College from 1890 to 1893, sends from Fort Ringgold, Texas, where he is now stationed, a fine specimen of live armadillo, which is in good condition after its long journey, and after being "full fed" for a time will be executed with neatness and dispatch and find a permanent abode in the museum. The Texas armadillo is the peba of the family *Dasypidae*, and occurs only in the southern part of the State, thence south throughout South America to Paraguay. It forms a valuable addition to our zoological collection.

The annual conference of Y. M. C. A. presidents met in Manhattan, March 28-29. A series of meetings was held Saturday and Sunday, which was very interesting. State Secretary Andrew Baird, Rev. Geo. D. Rogers of the State Committee, and Mr. Moody were present and conducted the meetings. Subjects relative to association work were taken up and discussed with interest and profit. But two visiting delegates were here from other colleges, but they expressed themselves as well paid for their time and trouble of coming. It is sincerely hoped that another year will bring together a larger number of the presidents of the fifteen college associations. In

many institutions the Y. M. C. A. represents the only phase of religious work in the college, and those interested in such work should not fail to use every opportunity for its advancement.

Quite a number of visitors attended chapel exercises this afternoon. Among those resident of Manhattan were Mr. and Mrs. Ridenour, Mrs. Stingley, Mrs. Wilder, Misses Alice Bodell, Verta Cress, Josie Finley, Glen McHugh, Ada Rice, Jennie Selby, Mabel Selby, and Bertha Spohr. Miss Sadie McCormick of Zeeland was also present.

GRADUATES AND FORMER STUDENTS.

Onie Hulett, '93, is at College for post-graduate work during the spring term.

Jennie Selby, Second-year in 1891-2, is at home after a winter of teaching near Smithfield, Neb.

Lucy Waters, '94, is one of a number of Manhattan teachers who visit classes to day.

Josie Finley, Second-year in 1893-4, has returned from California, and is occasionally seen in College halls.

Jennie Smith, '94, one of Randolph's popular teachers, takes advantage of the Saturday session to visit College.

M. A. Limböcker, '95, takes advantage of the spring vacation at the State University to spend a week at home, with occasional visits to the College.

Ada Rice, '95, having completed a successful term's teaching at Mount Pleasant, is pursuing special studies at her Alma Mater.

Lorena Clemons, '94, enjoys more than ever her duties in the Secretary's office after an illness of three weeks from scarlet fever.

A. C. Pike, Second-year in 1894-5, visited College on Monday. He has just finished a term of teaching near Westmoreland, and will farm in that vicinity this summer.

Geo. W. Smith, '93, having no duties at the State Normal during examination week, spends the time in Manhattan with his parents. He is chosen orator for Arbor Day exercises at the Normal this year.

F. R. Smith [93] and F. H. Roberts [Third-year in 1887-8] left Tuesday for Gillett, Colorado, to open a law office. Messrs. Roberts and Smith are thoroughly equipped for the work before them. They are young men of very high personal character, and unusual ability. They have been close and successful students, and those who know them best make the brightest predictions for their success in Colorado.—*Manhattan Nationalist*.

The Last Economic Lecture.

On Friday of last week the chapel lecture course for the second year was closed with a rapid sketch of our monetary legislation between 1861 and 1893.

Whether one views this legislation as beneficent or maleficent, will depend upon his point of view. To some, it is a record of crime; of a capitalistic attempt to create a national debt, to buy it cheap, to make it dear, and then perpetuate it. To others, it is a history of the attempts of patriotic statesmen and business men, first, to meet a great national emergency, and then to establish a sound and honest money system. The attempt on the part of the speaker, here as elsewhere, was to state the facts, and then give them the two interpretations; that, in accordance with the requirements of the catalogue, the student might be enabled "to grasp the principles involved" "without bias or prejudice."

The war between the two principles—of public vs. private money—began with the authorization of demand notes, July 17th, and August 5th, 1861. Public money thus got what private money advocates regarded as a dangerous start.

By the same acts, Secretary Chase was authorized to borrow. The banks of New York, Boston, and Philadelphia met him more than half way, organized promptly, and proposed to furnish all the money the Secretary might need. Their plan required the Secretary to deposit once more the public funds with them, to borrow their notes and give in exchange bonds, bearing interest; and his checks, which they could use as money (Bolles, pp. 25-26). To the banker's disgust, Secretary Chase declined to accede, and demanded hard money instead. They reluctantly complied, and lent specie for a time till they found the Secretary issuing Government paper, whereupon they suspended (close of 1861) not to resume until 1879.

Following are the great paper loans of the War: February 25th, 1862, 500 millions; March 3rd, 1863, 900 millions; March 3rd, 1864, 200 millions; June 3rd, 1864, 400 millions; March 3rd, 1865, 600 millions.

February 25th, 1862, Congress authorized legal tenders bearing the "exception clause." Such money was receivable for all debts and dues, public and private, except duties on imports and interest on the public debt.

February 25th, 1863, the national banking system was established, and on June 3rd, 1864, the law was given its present form.

April 12th, 1866, the contraction act was passed providing for the cancellation of \$10,000,000 of public money in the next six months, and \$4,000,000, monthly thereafter, indefinitely. Senator Sherman opposed the bill on the ground that the Secretary could contract the currency much faster still than the law

authorized by simply locking up paper. February 4th, 1868, the contracting was stopped by law.

March 18th, 1869, the credit-strengthening act was passed providing that where a question arose as to whether a public obligation was payable in paper or coin, the coin should always be given the benefit of the doubt; further, that no paper obligations, not already due, might be paid until due, unless, in the meantime, paper became as valuable as coin.

July 14th, 1870, the first refunding act was passed providing that a billion and a half of bonds, one billion not payable for thirty years, the others payable in ten or fifteen years, might be issued in place of bonds now due.

On February 12th, 1873, was passed the coinage act making the gold dollar the unit of value, dropping the standard silver dollar, providing against its further coinage, and making the authorized silver money legal tender only for payments of five dollars and under.

June 22nd, 1874, the revised statutes demonetized, except for five-dollar payments and under, the standard silver dollars that were still in circulation. Silver at this time was promising to become abundant.

January 14th, 1875, the specie-resumption act was passed providing that on January 1st, 1879, the United States Treasury must redeem paper in "coin;" i. e., gold, since silver was now demonetized. To do this, it must contract still further. It must also cause the government paper, save three hundred millions, to give place to bank paper, which might be expanded without limit. More bonds might be issued to aid resumption.

In 1878, the opposition gained power, and February 28th remonetized silver. On May 31st, it forbade further contraction, and provided that public money finding its way into the Treasury should be re-issued instead of being destroyed. The silver act provided that the Secretary might buy and coin from two to four million dollars' worth of silver dollars monthly. These should be full "legal tender" for all debts and dues, public and private, except were otherwise expressly stipulated in the contract.

July 14th, 1890, the Sherman silver purchase act was passed stopping the coinage of silver dollars, and providing instead that the Secretary should buy monthly 4½ millions ounces of silver, giving in exchange "Treasury notes of the United States" which were redeemable on demand in "coin," either gold or silver at the pleasure of the Secretary. He chose to pay gold, and the notes were used in exhausting the gold reserve. In 1893, President Cleveland called a special session of Congress to repeal the purchase act. The eastern press added that on doing so it should "go home." This it did after first passing a bill for the "coinage of the seigniorage"—a bill which the President promptly vetoed. This ended, apparently, the further coinage or purchase of silver. It is now proposed to destroy the remaining 346 millions of greenbacks; this accomplished and the present silver dollars demonetized, the victory of the gold standard and private money will be practically complete.

The Weather for March, 1896.

BY C. M. BREESE, OBSERVER.

A cool, dry month with considerable wind. The mean temperature differed but little from January and February. Vegetation is advanced but little more than at the end of February, with the exception of wheat, which is growing nicely and is in fine condition. Tame grass is coming on, but needs good rains. Oats are practically all in. Peaches and plums are just ready to burst into bloom. Indications are the season will be about a week later than last year.

Temperature.—The mean temperature was 37.66°, which is 2.74° below the normal. There have been twenty-six warmer and eleven colder Marches in the period covered by our records. The highest temperature was 81°, on the 30th; the lowest, 8°, on the 13th—a monthly range of 73°. The greatest daily range was 47°, on the 20th; the least, 5°, on the 14th. The mean daily range was 26°. The warmest day was the 27th, the mean temperature being 64.25°. The coldest day was the 13th, the mean temperature being 19.50°. The mean temperature at 7 A. M. was 28.84°; at 2 P. M., 49.29°; at 9 P. M., 36.26°. The mean of the maximum thermometer was 51.58°; of the minimum, 25.35°; the mean of these two being 38.47°.

Barometer.—The mean pressure of the month was 28.848 inches, which is .07 above normal. The maximum was 29.344 inches, at 7 A. M., on the 23rd; the minimum, 28.084 inches, at 9 P. M., on the 27th; monthly range, 1.26 inches. The mean at 7 A. M. was 28.869 inches; at 2 P. M., 28.815 inches; at 9 P. M., 28.859 inches.

Cloudiness.—The per cent of cloudiness was 39.78. This is 3.22 per cent below normal. The per cent at 7 A. M., was 43.55; at 2 P. M., 46.77; at 9 P. M., 29.03. Six days were entirely cloudy; one was five-sixths cloudy; three were two-thirds cloudy; three were one-half cloudy; five were one-third cloudy; two were one-sixth cloudy; eleven were clear.

Precipitation.—The total precipitation was .87 inch. This is .43 inch below the normal. It fell in five storms. There were three snow storms, the one on the 13th and 14th being a driving one, about 3½ inches falling. 4.6 inches of snow fell during the month. There was a thunder storm on the morning of the 27th.

Wind.—The wind was from the north twenty-three times; east, fifteen times; northeast, twelve times; south, twelve times; northwest, ten times, southwest, eight times; southeast, seven times, and west, six times. The total run of wind for the month was 10681 miles, which is 984 miles above the mean. This gives a mean daily velocity of 344.54 miles, and a

mean hourly velocity of 14.36 miles. The highest daily velocity was 683 miles, on the 31st; the lowest, 196 miles, on the 9th. The highest hourly velocity was 48 miles, from 2 to 3 P. M. on the 27th.

The following tables give comparisons with preceding Marches:

March.	Number of Rainy Days.	Rain in inches.	Per cent of Cloudiness.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Mean Barometer.	Minimum Barometer.
1858...	5	2.02	56	SW	47.12	82	10	.....
1859...	6	2.88	56	SW	45.95	74	29	.....
1860...	0	.00	26	SWNW	50.89	81	24	.....
1861...	0	.00	24	SW	41.20	79	20	.....
1862...	0	.00	53	NW	37.27	85	8	.....
1863...	0	.00	26	N	45.77	86	20	.....
1864...	5	2.12	35	NW	38.21	68	19	.....
1865...	6	2.27	.....	.....	38.21	74	-8	.....
1866...	.....	.....	.....	.....	.....	.....	.....	.....
1867...	4	.63	68	N	24.58	52	-9	.....
1868...	5	.93	48	SW	47.88	87	19	.....
1869...	4	1.06	49	SW	35.24	72	-2	28.79
1870...	5	1.45	50	SW	34.82	68	0	28.69
1871...	4	1.02	45	NW	46.92	83	22	.....
1872...	5	.92	44	SW	37.34	73	18	.....
1873...	4	.71	44	SW	42.02	74	3	.....
1874...	1	.30	58	NE	38.07	68	18	28.65
1875...	2	1.21	44	SW	36.86	80	5	28.65
1876...	6	3.96	58	NW	32.65	66	5	28.74
1877...	3	2.70	67	SWNW	38.87	76	3	28.76
1878...	5	1.77	49	SWNW	49.53	81	17	28.64
1879...	0	.00	44	S	46.63	85	10	28.67
1880...	2	.50	42	NW	41.24	80	-2	28.57
1881...	1	.75	50	NW	36.20	72	13	28.54
1882...	2	.80	42	SW	46.73	78	12	28.67
1883...	3	1.05	49	NESW	39.19	73	13	28.70
1884...	5	2.36	57	NE	40.25	75	8	28.60
1885...	3	.33	28	SW	40.34	73	15	.....
1886...	7	2.00	52	S&NE	38.72	82	9	28.87
1887...	3	.39	26	SW	42.85	83	23	28.96
1888...	5	2.48	36	.....	35.77	83	6	29.05
1889...	3	1.99	32	.....	43.01	77	15	29.05
1890...	5	.13	35	E	37.18	77	2	28.95
1891...	6	2.24	44	SW	33.43	69	-4	28.88
1892...	7	4.60	42	NE	39.16	77	10	28.89
1893...	5	.99	30	S	39.65	87	6	28.83
1894...	4	.67	25	N&S	46.04	86	8	28.87
1895...	3	1.20	35	.....	41.73	95	5	29.82
1896...	5	.87	40	N	37.66	81	8	28.85
Sums	139	49.30	1551	.....	1535.2	.....	690.69	.....
Means	4	1.30	43	SW	40.40	.....	28.78	.....

WIND RECORD.

March.	Total Miles.	Mean Daily.	Maximum Daily.	Mean Hourly.	Maximum Hourly.
1889	6871	221.64	537	55	9.23
1890	8180	263.87	630	89	10.99
1891	9752	314.57	662	126	12.67
1892	11143	359.13	690	105	14.96
1893	10231	330.03	627	32	13.75
1894	11342	365.87	686	132	14.82
1895	9290	299.70	511	139	12.50
1896	10681	344.54	683	196	14.36
Sums	77480	2499.35	.....	103.28	.....
Means	9697	312.42	.....	12.91	.....

Accessions to the Library, Week Ending April 4th.

Annual Literary Index, 1895.
 Annual American Catalogue, 1895.
 Harper's Classical Library, Virgil.
 Harper's Classical Library, Sophocles.
 Harper's Classical Library, Caesar.
 Harper's Classical Library, Sallust, Florus, and V. Paterculus.
 Harper's Classical Library, Cicero's Orations.
 Harper's Classical Library, Livy, Vols. 1 and 2.
 Harper's Classical Library, Xenophon.
 Corfield's Treatment and Utilization of Sewage.
 Food Products of the World, Green.
 A Victorian Anthology, Stedman.
 Mineralogy, Crystallography, and Blowpipe Analysis, Moses and Parsons.
 Chronicles of Count Antonio, Hope.
 Methods of Teaching and Studying History, White et. al.
 English in American Universities, Payne.
 The Days of Auld Lang Syne, Maclaren.
 Public Libraries in America, Fletcher.
 Total Eclipse of the Sun, Todd.
 Handbook of Arctic Discoveries, Greeley.
 History of the Novel Previous to the Seventeenth Century, Warren.
 Over the Tea Cups, Holmes.
 The Jungle Book, Kipling.
 Dr. LeBaron and his Daughters, Austin.
 Reed's Parliamentary Rules.
 The Story of the Earth, Seeley.
 Livingston and the Tomato.
 Bayard Taylor, Smyth.
 The Birds About Us, Abbott.
 Oak Galls and Gall Flies, Adler and Stratton.
 The Little Minister, Barrie.
 Wyclif, Sergeant.
 A History of Nineteenth Century Literature, Saintsbury.
 The Spraying of Plants, Loderman.
 Plant Breeding, Bailey.
 Literary Shrines, Wolfe.
 Beside the Bonnie Briar Bush, Maclaren.
 The Library Reference Atlas, Bartholomew.
 Report of the Attorney General, 1894.
 Report of the Secretary of the Interior, Public Lands, 1894.
 Report of the Secretary of War, 1894. Engineer's pt. 6.
 Annual Report of the Comptroller of the Currency, 1894.
 Arbor Day: Its History and Observances, Eggleston.
 Official Record, War of the Rebellion, Vol. 47, pt. 3.
 FROM BINDERY.
 Annual Conventions of American Agricultural

Colleges and Experiment Stations, 1891-5.

Botanisches Centralblatt, Volumes 61-64.

Elisha Mitchell Scientific Society, Volume 11.

Farmers' Institute, Ontario, 1894.

Ministere de L'Agriculture, Volumes 13, 14.

Nitrogenous Manure, Wagner.

Pennsylvania Railroad Co., at the Columbian Exposition.

Review of Reviews, Volume 12.

Warington's Lectures, Rothamsted Investigations.

Washington or the Revolution, Allen.

Journal of Micology, Volume 7.

Malthus and His Work.

Electrical Review, Volumes 26, 27.

American Engineer and Railroad Journal, Vol. 9.

American Journal of Mathematics, Volume 17.

Carpentry and Building, Volume 16.

The Engineering Record, Volumes 31, 32.

Literary World, Volume 26.

The Cultivator and Country Gentleman, Vol. 60.

The Rural New Yorker, Volume 54.

The Agricultural Gazette, 41.

Gardiner's Chronicle, Volumes 17, 18.

Official Gazette of the U. S. Patent Office, Volumes 70, 71.

Science, Volume 1. N. S.

Inland Printer, Volumes 14, 15.

Paper and Press, Volumes 19, 20.

The Garden, Volumes 47, 48.

Publishers' Weekly, Volume 44.

Hoard's Dairyman, Volumes 24, 25.

The Auk, Volume 12.

The Canadian Entomologist, Vol. 24.

Industrialist, Vol. 20.

Journal of the Military Service Institute, U. S. Vol. 16.

The Quarterly Journal of Economics, Vols. 1-9.

Harper's Weekly, Vol. 39.

Transactions of the Wisconsin Academy of Science, Vol. 10.

American Architect, Vol. 48.

The American Florist, Vol. 9.

American Journal of Science, Vols. 48, 49 50.

Atlantic Monthly, Vol. 76.

Arena, Vols. 10, 13, 14.

Berkshire Year Book, 1895.

Bulletin of the American Museum of Natural History, Vol. 7.

Botanical Gazette, Vol. 20.

Consular Reports, Vols. 48, 49.

Century Magazine, Vol. 50.

The Chautauquan, Vols. 21, 22.

Critic, Vol. 26.

The Engineering Magazine, Vol. 9.

Edinburg Review, Vol. 182.

Education, Vols. 15, 16.

Eclectic Magazine, Vol. 125.

The Forum, Vol. 20.

Graphischen Statik, Ritter.

Die Graphische Statik, Culmann.

Harper's Magazine, Vol. 91.

Journal of Comparative Medicine, Vol. 12.

Journal of Political Economy, Vols. 1, 2.

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NOISELESS LIVES.

BY ALICE RUPP.

OUR libraries contain innumerable volumes telling us of the lives of great men and women, the grandest models of the human race, illuminating, as it were, both space and time. By their having lived on this earth, they have made it far more beautiful to us; we cannot visit Stratford, Abbotsford, or Rydal Mount without feeling that Shakespeare, Scott, and Wordsworth "have made the place of their feet glorious."

Manifold, however, are the many lowly lives lived on this earth whose names are unknown to man, whose noble, sacrificing work no pen ever records, but who are unmistakably dear to God. They make no noise in this great, busy world, but it needs not blast of trumpet nor beat of drum to make a life grand, beautiful, and noble. Consider for a moment how many of God's most potent ministers are noiseless. How noiselessly the little sunbeams fall all day long on field and garden, and yet what joy, cheer, and life they diffuse. How noiselessly the little flowers are pushing their tiny heads from their winter quarters, and yet what mute sympathy, what sweet fragrance, they emit! How noiselessly the stars and planets move in their majestic march around the throne, and yet they are suns and worlds! How noiselessly the angels work, stepping with silent tread in our homes and performing their ministerings about us! Who hears the flutter of their wings, or the echo of their voices? And yet we know they hover around us and move among us, ready to lift us up when we stumble and direct us when we are confused, thus ever guarding us with a constant care. So there are many noble lives on this earth who work so noiselessly that they are never known among men, but whose names are justly recorded among the noblest ministers by Him who notes the sparrow's fall.

These noiseless souls do no great and marvelous things, and yet they are inestimable benefactors, scattering, perhaps unconsciously, seeds of kindness and blessings wherever they may go. Though they make no apparent noise, it is not difficult to detect their sphere. Does a stranger move into the neighborhood, this silent factor, as he goes from house to house, makes it possible to speak some kind, amicable word in behalf of the new-comer. In less than a month, he is a stranger, lonely and friendless, no more, but possessed of hundreds of friends, never knowing to whom he owes them.

Here is one over whom one of the many dark clouds of business hangs heavily and threateningly, unjustly so, perhaps. He receives neither the strengthening word nor a loving look from those around him. Failing to receive any help, and chilled by the indifference of former friends, who are perhaps secretly rejoicing that their own cruel, selfish ends are promoted by his failure, he loosens his hold on resistance, and floating out into the whirlpool of dissipation, is broken and crushed upon the rocks of vicious habits. On the other hand, one of these quiet lives, knowing the unjustice of the accusation, takes every occasion to say so, as he mingles with his neighbors or meets with friends in business. How quickly the odium effervesces. Public opinion has changed toward him. He is highly esteemed in his community, yet neither he nor his friends are cognizant of the influence which wrought this wondrous change.

You have a friend whose character is full of flaws. Plainly tell him so, and the effect availeth nothing, as he will be offended and driven away from your teaching. But quietly, patiently, lovingly, day by day, drop some silent lesson into his heart. One by one his faults slowly but surely disappear, and the once sullied, blemished character is white as snow. In the glad rejoicing, no one stops to inquire for the key which unlocked the puzzling problem. Chance? Accident? No, it is the silent, patient, untiring zeal of a noiseless life.

The best work of parent or teacher is the noiseless, quiet, peaceful work. It is not so much what a man says or does purposely and with intention, that leaves its mark in the world or the deepest impress on other men's lives, as we sometimes think, but it is the unconscious, unpurposed influence which goes out from him, whether present or absent, awake or asleep. How many times we plan to do great and noble things for the betterment of others—vain in our imaginary triumphs. Suddenly we are brought to the realization of the truth of the Scotch proverb as well

as the emptiness of our own schemes. Then, when we are not intending to do anything grand or beautiful, the Divine hand uses our words for noble purposes, and to make lasting results.

Men of wonderful power and gifts—the mighty warrior, the gifted statesman or orator, the influential politician, the accomplished painter or poet—come once in a century and flash across the path of humanity like a brilliant meteor; but it is the quiet, noiseless lives which are most instrumental in elevating the great mass of humanity out of the "meshes and malaria of discord and strife" to the high and generous plane of regard of others' rights and reputation where they inhale the pure atmosphere of mutual confidence and respect. It is they who strive so earnestly and quietly to bring about the "Golden Age of History," when men of whatever talent or station will come to a better understanding of themselves and their relation to God and to their fellowmen. Not much note is taken of them here. They are not reported in the newspapers, and their monuments will not make much show in the churchyards. Their names will not be handed down to posterity with wreaths of glory about them. But they are remembered, and their work is blessed. They are like the modest little violets which make no show, but which, hidden away among tall plants and grasses, pour out their sweet perfume and fill the air with their odors.

PICTORIAL DRAWING IN THE PUBLIC SCHOOL. I.

BY PROF. J. D. WALTERS.

A PICTORIAL drawing is the representation of an object having three dimensions upon a plane having but two dimensions, as such object would appear to the eye in a fixed position. The geometer calls all such drawings radial projections, or perspectives. The former term is used in descriptive geometry, and indicates that such a drawing is simply a projection with the projectors not orthogonal to the plane of delineation, but converging at a point—the eye. The latter term comes from two Italian words *per* and *specie*—through seeing, because a perspective represents the object as it would appear if seen through, and therefore upon, a piece of glass. In making such a picture, we may proceed by three radically different methods:

First, we may draw the object as we see it before us; i. e., as the camera of a photographer would picture it. Such a drawing, made from the actual object or model, is called drawing from nature, drawing from the round, drawing from the solid, or drawing from the model.

Second, we may evolve the picture from memory or from imagination, aided, perhaps, by notes or sketches of details. Such a drawing is called object drawing, or freehand perspective.

Third, we may construct it from its projections, or from given dimensions, by means of the compass and ruler, in accordance with the rules of radial projection. Such a drawing is called linear perspective.

Now, which of these three methods is the proper one for school instruction? The answer is, evidently, all three combined. The first is the most simple, and, fortunately, its educational effects are the most desirable in the primary classes. It teaches the child how to observe. Yet, the teachers differ as to the proper time it should be introduced. In the city schools of France, where first-class drawing teachers abound, drawing from the model is taken up in the primary classes, and the instruction comprises not only outline drawing with the soft pencil, but also shading from the object. The result is a rapidity of form perception and an ease in representing all kinds of things that are altogether absent in German or English schools, where more weight is placed upon decorative drawing "in the flat." The opponents of this system say that it leads to carelessness in rendering details, that it neglects the most important element of art-instruction—the aesthetic, and that the practical difficulties of obtaining suitable models and model holders are insurmountable in the ordinary school. They hold that aesthetic training can be given best by teaching much surface decoration. Many of the best German works on art instruction in the common schools, like that of Häuselman of Zurich, abstain entirely from the teaching of pictorial drawing. In the United States, both methods have their adherents, though most textbook series introduce drawing from the solid in

the high school courses. Prof. Amos K. Cross, Instructor in the Massachusetts Normal Art School at Boston, with his "National Drawing Course," is at present, perhaps, the representative of the French system. The difficulty of securing suitable models he has met, in a measure, by inventing a set of strips of cardboard which can be fastened together in numerous ways by means of cheap brass clamps.

The second, or freehand perspective method, has no possible place in the elementary grades of the public schools, but it should be introduced as soon as the pupil has gained some proficiency in drawing from the model. It forces him to remember forms and appearances, and to associate these into new combinations. Its chief value consists in its effect upon the imaginative and reasoning faculties.

The third method need not and cannot be taught in the public school. To it the teacher should resort for deductions of rules and logical proofs. The study of scientific perspective is as difficult as that of descriptive geometry, of which it is a branch. It is necessary, however, to the architect and artist when he undertakes to draw complicated subjects. It follows that the student should learn, first of all, to make pictorial drawings by the first and second methods; in other words, that he should study model and object drawing.

Where Nature Abides.

The Knoxville *Journal* is moved to say that those whose whole lives have been spent in cities, who have never known the pleasures and advantages of life in the woods and fields, and learned the lessons which nature teaches, have missed much. There is much to be learned from nature:

"To him in love of nature holds
Communion with her visible forms
She speaks a various language."

There is something in nature's voice, in the freedom of the wood and field and sequestered stream, that leaves an imprint on those who have dwelt among them that is not effaced in after life, but which tends to broaden and strengthen the character that receives its final mold amid other scenes and surroundings. Life in the country, on the farm, begets among those who are not merely "dull, senseless clods of clay" habits of industry, economy, self-denial, morality, sincerity, sympathy, sturdiness, and honest faith that form a good foundation for a worthy life and character. The great majority of the successful men of the world in business, in law, literature, journalism, politics, the pulpit, science, government, and the various fields of human endeavor were once country boys. The great statesmen, orators, teachers, jurists, leaders, merchants, and manufacturers, for the most part, spent their earlier years in the country, close to the bosom of nature, with her manifold voices and lessons, her subtle teachings and influences. No matter how long a man may live, or where he may live, or how busy or great he may be, the years he spent in the country as a toiler on the farm or as a wanderer in nature's garden, he never forgets the days thus spent or altogether outgrows their influence; no matter how hard the life or humble the home of these bygone days, there are remembrances of them he will ever fondly cherish, if he does not sigh for the unreturning. Visions of the "old homestead," the "old oaken bucket," or the cooling spring, the odor of new-mown hay, of the newly-ploughed earth under the sprinkling rain, the wild flowers of the fields, the blooms and blossoms of the wayside and hedgerow, the old-fashioned garden, the blooming orchard of the spring time, the harvest field under the summer sun, the mint by the brookside, the whistle of the partridge, the song of the mocking bird and the host of feathered warblers that fill the air with melody, visions and memories of these will never fade from the minds of those who have lived close to and learned their first lessons from our common mother.

It is good to get out in the country occasionally and renew acquaintance with the "great cause of all truth." One at least gets a rest and change; a respite from the constant battle that is fought in the busy haunts of men. These remarks, that have run beyond the half dozen lines intended, are suggested by the action of Sarah Bernhardt in moving to the country where she will live among the peasants for the summer and as one of them, a radical change for Sarah, and of which *Harper's Weekly* says:

"Such a vocation is wise; such an experience can but be valuable. One is always a gainer from getting "near nature's heart." One gets a deeper insight into humanity when it is studied at close range, one gets a broader judgment when the observations include widely divergent classes. And the nearer one gets to the soil, among the dull and unrewarded toilers of the earth, the nearer one gets to the primitive ideas of mankind, to the emotions and impressions that antedate modern civilization."

"In this country we have no peasant class; our rudest village has hardly any resemblance to the average French hamlet. Such a life as the French peasant leads is not possible in our country. But it might be well for us to follow Madame Bernhardt's example in the choice of a vacation. It is possible to live cheaply and soberly and withal pleasantly in the quiet of country life. It is possible to get near to nature's heart, to enter into the lives and thoughts of the lowly here and everywhere. There is rest and seclusion away from the busy centers, and there are

many who would profit by seeking it. One can hardly imagine a better tonic for a mind wearied by the exactions of fashion and sated with splendor than a summer spent as the great French actress proposes to spend it."

Country vs. City Life.

In the sermon preached in the Cathedral in this city by Cardinal Gibbons last Sunday one of the most striking and suggestive passages is that describing the content of the agricultural people in the European lands visited by him. "The secret of their contentment," said the Cardinal, "in spite of heavy taxation, seemed to be due to two causes. The people of the agricultural districts are not yet infected with the fever that burns in the hearts of our farmers—of hurrying from the country into the city and hastening to get rich. This is a serious misfortune with us. Our farmers are abandoning the land for the town."

Other causes of this abandonment may be mentioned. In the countries of Western Europe the farmers generally live in villages, or the farms are small and there is an abundance of society. It is the lack of society which drives many American people from the country. Our farms are usually large, and the farmhouse is a considerable distance from the nearest neighbor. There is little or no visiting in the evening because roads, perhaps, are bad and the distance too great to travel comfortably in darkness or through the cold and inclement winter nights. And so the wife and daughters of the farmer often live a life of irksome seclusion. They grow lonesome. The church, may be, is far away, and the school is inconvenient. For the same reason, it is difficult to get domestic servants. The colored people, who are the chief reliance in many of the States of the Union, are extremely social in their instincts, and they are swarming into the towns. And the difficulty of obtaining "help" is another feature which makes the life on the farm unpopular with many.

And so the farmer is persuaded to abandon the old home with the expectation of giving his family greater advantages, and of earning a living at the expense of less arduous labor. He finds out, when too late to retrace his steps, that the struggle for existence in the city is far more fierce, and that he has not bettered his condition by the move. To operate a large farm, like the operation of any other large business, requires a large capital. People often make the mistake of holding more land than their means will justify, and so they fail, just as they would fail in almost any other business without sufficient capital. It is surprising how few acres well tilled will afford a good living for a family. If men of small means would be content to live upon small farms, the country would be more thickly settled, the necessity for hiring much help would not be felt, there would be plenty of society, and the chief objections to country life would disappear. And, after all, the country life is the best. It is more favorable to intellectual development, to reading and thinking, and the long winter evenings around the fireside can be made delightful instead of being irksome, as they too often are.—*Baltimore Sun*.

A Mistaken Idea of Independence.

An unattained and unattainable aspiration of nearly every man is independence—freedom to do as he pleases without regard to other people. He might obtain it in solitude, but cannot in society. All kinds of bonds bind him to other people and require him to respect in some degree their wishes. The boy in school longs for the day when he shall be free from the domination of his teacher or master. When he goes to work he finds that he is still under control, and that his hours of coming and going are regulated. Then he becomes ambitious to have a business of his own, so that he may rule others instead of being ruled, but more especially that he may have plenty of leisure time and be able to come and go at will. When, however, he has attained this position, he soon finds that he is not free, but is more of a slave than ever. His customers are exacting, and his monied interests compel him to give them full attention, so that, for some years at least, he has less leisure than when he was an employee. In the meantime he has very likely married, and wife and children soon claim his attention during the hours free from business cares. He cannot live in society under any circumstances without being in some measure controlled by those about him. Complete independence he cannot attain.

The boy who deems it a hardship that he should be compelled to obey his teacher and parents is more nearly free and independent than he will ever be in later years. Even the man who has won a fortune, and according to popular saying, has become independent, is far from being free to do as he may please. The fortune that makes him independent, financially, exacts service from him. He must look after his properties and investments, or they will depreciate in value and he will be compelled to begin business life anew. In his old age he gets back again to something like his condition when a boy. He has neither cares nor responsibilities, but somebody whom he is required to obey must look after him.

The boy who chafes under rules and discipline, longing to be free, should be reminded of the obligations of the social state and admonished to prolong as much as possible the freedom and enjoyments of youth. For that which is regarded as a measure of independence must be paid for. The youth who is willful and

determines to break from authority soon learns that he has broken with a supporter as well as a ruler. If he would have his own way, he must support himself, and in doing so he puts himself under rule of new task-masters. Struggle as we may, we cannot achieve complete independence, and the wisest thing to do is to cheerfully acknowledge the fact and make the best of our situation. This can be done by curbing our appetites and desires so that we shall want only those things that may be attainable through reasonable effort. We should also respect authority as a necessary exercise of power, and cheerfully make our share of the mutual sacrifice which social conditions require to be made. Thus we may achieve, if not independence, such harmonious relations with our fellow-men as will give us as large a measure of freedom as can be accorded to one member of a community, bound to all the other members by innumerable ties.—*Baltimore Sun*.

Make the Country More Attractive.

Town life has many attractions that cannot be enjoyed in isolated farm life under present conditions. Hence, many living in the country long to emigrate into town, and do so upon the first favorable opportunity. The country resident leaves the pure air, nature's beauties, the open field, and freedom of rural life for a pent-up residence in a thickly settled town, where he can scarcely breath or step without interfering with his fellow mortals; where high buildings confine his vision and stagnate the air, and effluvia of innumerable sorts greet his sense of smell and disorder his system.

Why this town attraction? It is the lonesomeness of country. It settles down like a dreary fog upon the boy, upon the girl, upon the mother, upon the father. If, in some manner, this condition of lonesomeness can be changed, you solve the problem of the trend of life to the city. The attractions of country life are many, but the isolation from congenial associations robs it of much pleasure that people desire and enjoy.

Some things may be done that will, in a great measure, relieve country life of much of its loneliness. One of the first remedies suggested, is the advent of good roads. This makes the access from neighbor to neighbor and the visit to town easy and pleasurable. A ride to town, either on pleasure, a visit, or business, would be a pleasing change. The city friend would frequently call on his country acquaintance in a social way or on business. Thus the meeting of our kind would be of much more frequent occurrence than at present.

But this is not all. The moving of farm products would be facilitated and cheapened and made much more pleasurable. Then the farm would enhance in value. Then, above all, would come the free gathering and delivery of daily mails; the farmer would get in touch with the world by correspondence, and the advent of the daily paper into his home. Before he went to his couch at night, he could post himself on the movements of the whole world. The stay-at-home would know what his fellow man was doing, and keep in touch with the world's progress. His business and convenience would be greatly facilitated by the daily receipt and despatch of inquiries and answers, by the daily forwarding and receipt of letters, market reports, etc.

Following this would come house telephones, enabling isolated country families to talk with whomsoever to them seemeth good.

Now, add to this, safety in handling small money transactions, and you have done away with many of the serious objections to isolated country life. To do this, make every postoffice a postal savings bank, where small sums can be deposited under government guarantee, with a proviso that the depositor can draw his money at any other office in the United States.

Many will consider these hints Utopian, but they can and will be brought to pass.—*L. L. Fairchild, in Country Gentleman*.

Wide-Tired Wagons.

The tendency of a narrow tire on a heavy wagon is to tear up the surface of a roadway constructed of any loose material packed together, while the tendency of the wide tire is to compress the material under it, and thus serve in a large measure as a road maker and not a road destroyer. The preference of farmers who have used them for farm wagons is well known. By a careful test it has been found that a two-horse team will haul 530 lbs. more across ordinary unplowed fields with three-inch tires than they will haul with one and one-half inch tires, and 830 lbs. more than with one-inch tires. The reason is that the wide tire passes over the ground, while the narrow tire cuts into it. This is true to even a greater extent on soft roads, and to a less extent on hard roads. And the narrow tire not only increases the draft, but it destroys the road. The only reasonable objection to wide tires is that they find every unevenness in a rough road and magnify its roughness. Most of our roads are periodically leveled, so that with the rolling effect of wide tires they would soon become smooth enough for carriage drives. But a few rains, followed by the cutting action of narrow-tired wheels, reopen the ruts, pry all the loose stones to the surface, and furnish an excuse for continuing the use of the narrow tires. Such shameful waste and destruction should be stopped by laws which discriminate against the wheels that destroy and in favor of those which pack the surface of our roads.—*Breeders' Gazette*.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1896-97.
 Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

The Battalion is drilling in platoon movements and the extended order.

A. L. Peter, Fourth-year, has gone home for a few days to make peace with tonsilitis.

Mabel Cotton, Fourth-year, is called from her College duties by the sickness of her mother.

The Alumni Association will meet at the College Saturday evening, April 18th, at eight o'clock.

The Gymnastics Class is organized for the Spring Term under the management of W. A. Cavenaugh, Fourth-year.

Among the visitors at chapel exercises today were Misses Henrietta Evans, Blanche Stump, Florence Vail, Lora Waters, and Mary Wilkin.

The Alma Enterprise notes the death, on January 6th, of Chas. L. Hall, Second-year in 1888-9. He was teaching the Wilmington schools at the time of his death.

The Second-year Class met today and elected a part of their officers for the Spring Term, as follows: President, Hattie Nichols; Vice-President, H. M. Thomas; Secretary, E. B. Patten.

The First-years have elected officers for the Spring Term, as follows: President, O. E. Woestenmeyer; Vice-President, Anna Pfuetze; Treasurer, F. E. Shelton; Secretary, Isabella Symms; Marshal, Kate Paddock.

Miss Bacheller and the forty members of the Sophomore Class of the Junction City High School spent a few hours at the College yesterday, visiting classes and studying something of methods and equipment.

Prof. Arnold Emich, special student here two years ago, enjoys a recent substantial increase of salary by the Board of Regents of the State University. His earnest, thorough work will soon demand further recognition.

Prof. White's "Pupils' Outline Studies in the History of the United States" is meeting with approval in all sections. A recent circular issued by the publishers, the American Book Company, gives testimonials from many prominent educators.

The Ionian Exhibition is pushed forward a day in the rearrangement made necessary by the Monday holiday, and will therefore be held on Saturday evening, April 25th, instead of the 24th, as announced in the Catalogue. The Society gives notice that while attendance will not be restricted by means of tickets, the doors will be closed to the public at eight o'clock, and the gallery reserved for the Ionians and their invited friends.

The First Division of the Third-year Class occupies the public hour this afternoon, with orations as follows: "Trifles," Hope Brady; "The American Girl," Frances Carnell; "What is Worth While?" Amelia Correll; "The Operatic Career," Lorena Crump; "Freedom," Magdalena Dahl; "An Italian Reformer," Grace Dille; "Old Maids," Phillipina Engle; "All Fool's Day," Susan Finley; "Water," Cordelia Johnson. Music was furnished by the Cadet Band, and Messrs. Clothier, Frowe, Peck, and Newell, in a vocal quartette.

The new editor of the Manhattan *Nationalist*, Mr. H. A. Perkins, formerly of the Olathe *Mirror*, is well acquainted with Regent Stewart, and gives him the following editorial endorsement: "Capt. S. J. Stewart of Allen County, appointed last week to succeed Harrison Kelley on the Board of Regents of the State Agricultural College at Manhattan, is a practical farmer and stock grower, and the appointment is one of the best that could have been made. Capt. Stewart is one of the pioneer settlers of eastern Kansas, a well-educated, all-around, successful business man. His character and integrity are unquestioned. It was a most pleasant experience to meet the kindly eye and friendly grasp of hand which twenty odd years ago we were so familiar with. We congratulate Gov. Morrill upon the wisdom of his selection."

GRADUATES AND FORMER STUDENTS.

May Shearer, student in 1893-4, is visiting with Myrtle Hood.

Mary Paddleford, Second-year last term, dropped in at College a few moments Friday.

W. E. Smith, '93, rode down from his school at Riley and attended chapel this afternoon.

J. B. Harman, '95, writes an occasional column of farm notes for the Valley Falls *Vindicator*.

W. H. Olin, '89, Superintendent of the Osborne Schools, was obliged to close school this week on account of diphtheria.

W. I. Joss, '95, recently gave an entertainment in his schoolhouse which was a success, and as a consequence, that school will have a new reading-circle

library. One of Mr. Joss' patrons went out of his way the other day to tell us how well pleased they were with their teacher and school.—*Hiawatha World*.

The St. Joseph (Mo.) *Herald*, in its report of Easter services at the First English Lutheran Church, gives credit for the beautiful program of music to Susie Nichols, '89.

The statement in last week's INDUSTRIALIST that Onie Hulett, '93, was here to take up post-graduate studies, was an error. Miss Hulett has gone to Kirksville, Mo., to enter the School of Osteopathy, where her brother Mac has been studying for several months. Both intend to fit themselves for the practice of the new science of healing.

Board Meeting.

The meeting of the Board, April 1st to 4th, brought together all the members, including the newly appointed regents, Hon. A. P. Riddle of Minneapolis and Capt. S. J. Stewart of Humboldt.

The reorganization of the Board was effected by election of officers: President, A. P. Riddle; Vice-President, C. E. Goodyear; Secretary, G. T. Fairchild; Treasurer, C. B. Daughters; Loan Commissioner, C. R. Noe.

Standing Committees were named as follows:

Finance—Regents Goodyear, Hoffman, Riddle.

Farm Management—Regents Noe, Goodyear, Stewart.

Horticulture—Regents Hoffman, Stewart, Noe.

Buildings and Grounds—Regents Daughters, Noe, Fairchild.

Employees—Regents Fairchild, Daughters, Hoffman.

The Finance Committee audited vouchers presented, verified the report of the outgoing treasurer, which report was adopted as a basis of settlement, and the Treasurer elect having filed his bond for \$50,000, approved by the Board, was authorized to complete settlement with the ex-treasurer.

Hon. W. B. Sutton and Hon. F. M. Tomblin, members of the State Board of Irrigation, presented the work of that Board, and offered for experiments in irrigation a loan of land and equipment at Oakley, which proposition the Regents accepted, authorizing the Station Council to begin work at once with instructions not to exceed fifty dollars a month for services of a competent assistant.

Estimates for current quarter presented by the Station Council were approved, and the following items of expenditure in the College Department were authorized: Executive, for carpet, \$50; cuts for catalogue, \$50; exchange of typewriter, \$50; Zoological, for museum supplies, \$40; forceps, \$3; Domestic, for ice cream freezers, \$8; Farm, for porch at foreman's house, \$20, pump in cistern, and fences about farm yards; Musical, for larger edition of College Lyric, \$20; Physical, for materials for constructing apparatus, \$10; Botanical, for museum supplies, classroom tools, and illustrations, \$25; Horticultural, for horse and hand lawn mowers, \$50; fence posts, \$20; protection against ditch, \$50; Military, for material to complete lockers, \$25; Library, exchange of typewriter, \$20 added to \$30 from unexpended fund.

The Board having directed that all action upon employees for the next College year be taken at this meeting, the Committee on Employees made a report which was adopted, recommending, first, that no change be made in the personnel of the Faculty or employees; second, that the title of the Chair filled by Prof. Will be slightly modified after consultation with him and Prof. White; third, that the only changes in salaries be the following: Superintendent Thompson's reduced to \$1100, Prof. Mason's increased to \$1600, Miss Pearce's increased to \$700, Mr. Sear's increased to \$800; but that a slight readjustment between College funds and Station funds be made in the payment of salaries of Professors Popeno and Mason.

The Secretary reported action in the discharge of the lease of the Garden City experiment plat, and the bringing of tools and apparatus to the College, which was approved. Sundry items of routine were reported and acted upon as to renting land in Dickinson County, requisition for 7000 catalogues, correspondence as to bonds of the city of Anthony, and as to bills pending in Congress.

Consideration of plans for advertising was postponed till the June meeting. The letting of contract for Station printing was referred to a special committee consisting of Regents Riddle, Stewart, and Fairchild. The discontinuance of chapel lectures in political economy was referred to the Faculty for action. The short course of lectures for farmers was, upon recommendation of the Faculty, withdrawn from the catalogue.

Mr. J. E. Payne, '87, having completed his post-graduate work and having recently been appointed to a position in the Colorado Experiment Station, was, upon recommendation of the Faculty, granted the degree of Master of Science.

A committee of one from each of the four College Societies was granted the privilege of presenting a plea for the rescinding of the rule of the Board declaring that all exercises in the College chapel shall be without charge for admission, in the belief that a slight charge at certain Society entertainments might be beneficial to the Societies. The Board gave a full consideration to the matter, with earnest regard for the interests of the Societies, but decided that it is not now wise to change the policy of the College in respect to exercises in the College chapel.

The Treasurer and Secretary were authorized to provide for the monthly payrolls of March, April, and May as they become due.

Tuesday evening was occupied with a joint meeting of the Board and Faculty as usual, with the sup-

per provided by the Cooking Class just preceding. Altogether, the Board held eight sessions, adjourning on Saturday noon to meet on Tuesday, June 9th next, at 9 A. M.

Notes from the Farm.

The prospects for the wheat experiments were never better at this time of year. The fall drought dried out the surface soil considerably and the plants made a small growth then, but light rains in October started a good root growth. The plants wintered well, and by the last of February a thrifty spring growth had started. Contrary to what we would expect, as the winter was dry, the soil was in fine condition, and contained plenty of moisture below the surface covering of one to one and a half inches of dry earth. With the help of our recent rains, several weeks of good growth is assured. The wheat on the subsoiled plats makes no better showing than on the ordinary plowing.

A valuable addition to our varieties of oats is a dozen sorts furnished by the United States Department of Agriculture through the kindness of M. A. Carleton, who obtained the seed from Russia, Germany, Sweden, Italy, and France, in the hope of securing varieties that will resist the destructive effect of rust that our oats are so subject to.

A co-operative experiment has been entered into with the Ohio Experiment Station to test the theory that a change of climate and soil is sufficient to free affected seed oats from smut. A small list of varieties that contained smut heads in their fields have been sent here, and have been planted without treatment by any of the methods to kill the smut germs. Most of our seed oats obtained from seedsmen in the east produce grain with smutted heads. The destructive dry winds of the past few weeks have not been as severe on the oats as would be expected. The drill put the seed well down into the soil where there was plenty of moisture to germinate it, and it is making a fine growth. The plats sown broadcast in the seeding experiment received a severe test, the wind blowing part of the seed out, and the balance failing to germinate until recent showers came. Of the winter oats that were planted last fall, only a few plants in favored spots lived through the winter, and at the present time these are making but a very small growth, doing not nearly so well as spring-seeded oats. The variety was Winter Turf, and is reported as having lived through the winters of Indiana and even those of New York. As the past winter has been very mild, we attribute the failure more to the poor start the oats made in the fall on account of the dry weather, and to being seeded in a field where the ground was very dry.

The College meadows are increased this spring by the seeding of thirteen acres of tame grass. A mixture of orchard grass, English blue grass, mammoth red clover, and medium red clover was used. The seed was mixed in equal parts by weight, except that one half as much of the orchard grass was used as of the others. The seeding was done with a drill, and cross drilled, and about twenty-eight pounds of the mixture used per acre. To make room for the hoed crops, twelve acres of the pasture on the old College farm, in grass for several years, have been broken up and will be put into corn this year.

As the plat of *Lathyrus Silvestris* is now two years old, we have another year's results to report. Last summer the few scattering plants that remained from the first planting in 1894 tillered out until the roots of a plant occupied a space about one foot square. The stems grew out flat on the ground, and reached a length of from two to three feet. The new growth started quite early this spring, but alfalfa eight months old has made a growth five times as large.

Very early this spring the gophers began their work of destruction in the alfalfa fields. In a small patch of alfalfa where there were no signs of them last summer, something like one hundred mounds of earth have been thrown up. In a seven-acre field where they did their first work last fall, they had mounds of earth scattered pretty much all over the field. It was very plain that if the gophers were not destroyed they would destroy the alfalfa, as a half peck of roots and crowns of the plants would be found stored away in a place. A very few settings of traps soon caught the gophers, and their fellows have not ventured into the field since. A half dozen gophers will throw up several hundred mounds of dirt. The trapping is quite simple and inexpensive, and one always gets the game when the traps are set properly. The first step is to locate the main burrows, which is easily done by taking an iron rod and probing in the ground about where you think the burrow would run from one pile of dirt to another, and within a foot or so of a straight line between the piles of dirt you will probably find the run. Locate the run about midway between the piles if possible, and then it is not likely to be covered up. When the run-way has been located, make a small opening into it with a spade, and put a common steel trap into the bottom of the burrow, sprinkling a little dirt over it. Then put a piece of board over the opening made and cover it over with dirt, so as to make it dark. The next time a gopher passes through that burrow, which may be at night or day, you will catch him without fail.

A successful steer-feeding experiment, covering a period of 140 days, was closed March 18th. After a few days of preparatory feeding, the steers were shipped on the evening of March 24th, and were sold on the Kansas City market the next day. They were divided into the four lots as they were fed, and each lot was sold upon its merits. On the day of sale, there were exceptionally large receipts of cattle at the yards, and the large, fine, ripe steers were very

numerous. The price, in consequence, ruled low, but our steers sold very satisfactorily and topped the market. We are under obligations to the hustling commission firm of Clay, Robinson & Company, who handled the steers, for seeing that all buyers bid on the stock, and that each lot sold on its merits. As has been explained before, there were twenty steers, and for the experiment they were divided into four lots of five each. Lot I. was fed on a balanced ration of fifteen parts corn meal, four parts bran, and four parts oil meal, and what corn fodder and alfalfa hay they could eat. Lot II. was fed on corn meal and corn fodder for roughness. These lots, together with lot III. were stall fed in the stone barn. Lots III. and IV. were fed alike on ear corn and corn fodder, but lot IV. was fed in an open yard with nothing but an open shed for shelter. At the close of the experiment, lot I. was an extra fine-looking bunch and averaged 1528 pounds, and had made an average gain of 2.89 pounds per day. They sold for the highest price, \$4.10 per hundred weight. For every pound of gain, it required 7.51 pounds of grain. Lot II. was next best in condition, and sold for \$4.00 per hundred weight. They had made an average gain of 2.06 pounds per day, each pound of gain requiring 9.16 pounds of grain. Lot III. was a grade lower, and sold for \$3.90 per hundred weight. With them it took 14.05 pounds of grain to produce a pound of gain, and they made an average daily gain of 1.63 pounds. Lots I., II., and III. had shed their winter coats and made a smooth appearance, while lot IV. was designated as the rough-haired lot. Lot IV. contained a couple of poor individuals, and this, with their rough appearance, made them sell for ten cents per hundred weight lower than lot III. They had eaten 15.62 pounds of grain for each pound of gain produced, and made an average daily gain of 1.55 pounds. The poor showing of lot IV. as compared with lot III. is somewhat opposed to our former experiments, but when all the facts and conditions are given in the bulletin conclusions can be drawn.

The past few weeks have witnessed a large sale of live-stock on the College Farm. In addition to the sale of something like \$1400 worth of fat stock, a large number of animals have been sold for breeding purposes which increases the amount of sales about \$700. The two prize bulls, Gaiety's Knight and Juniper's Knight, have gone to fields of usefulness. These are two young Shorthorn bulls by the famous imported Cruickshank bull Craven Knight, and were the last of his get we had. E. J. Pruessing of Sabula and Wm. Scott of Pawnee City, Nebraska, were the fortunate purchasers. Two Shorthorn cows and calves and a fine young bull go to S. P. Soult of Osborne, Kansas, to be added to his already fine herd of Shorthorns. C. A. Beutel, of Oak Hill, Kansas, selects Gentle Knight, a fine young Shorthorn bull, to head his herd. Golden Knight 108086, a son of Craven Knight (57121), has been at the head of the College Shorthorns since the removal of Craven Knight, and his calves are giving excellent satisfaction. Only a few of last year's crop are left unsold, and all go at good prices.

Regent Daughters of Lincoln, C. B. Bolton of Paxico, David Newcomb of Sylvan Grove, and others have lately selected stock from the College herd of Poland-Chinas.

COLLEGE ORGANIZATIONS.

Student Editors.—Gertrude Havens, E. G. Gibson, F. E. Uhl.

Alpha Beta Society.—President, M. G. Spalding; Vice-President, Clare Wilson; Recording Secretary, Ed. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce; Board of Directors, J. M. Westgate, Guy Hulett, Marian Gilkerson, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, C. D. McCauley; Vice-President, R. W. Bishoff; Recording Secretary, W. B. Chase; Corresponding Secretary, J. E. Trembley; Treasurer, W. T. Pope; Critic, S. Dolby; Marshal, W. H. Young; Board of Directors, J. B. Doran, R. J. Peck, L. A. Nelson, J. M. Harvey, F. Gregory.

Hamilton Society.—President, C. E. Pincomb; Vice-President, W. L. Hall; Recording Secretary, L. G. Hepworth; Corresponding Secretary, V. Maelzer; Treasurer, A. C. Coe; Critic, E. C. Joss; Marshal, A. J. Pottorf; Board of Directors, C. S. Evans, H. M. Thomas, E. O. Farrar, F. E. Cheadle, B. H. Shultze.

Ionian Society.—President, Minnie Pincomb; Vice-President, Winifred Houghton; Recording Secretary, Sue Long; Corresponding Secretary, May Bowen; Treasurer, Flora Allingham; Critic, Maggie Carleton; Marshal, Bessie Lock.

April 4th.
At 7:30, the Hamilton Society was called to order by Vice-President, G. C. Hall. The Society was led in prayer by W. L. Hall. After the reading of the minutes, the following officers were elected for the spring term: President, C. E. Pincomb; Vice-President, W. L. Hall; Recording Secretary, L. G. Hepworth; Corresponding Secretary, V. Maelzer; Treasurer, A. C. Coe; Critic, E. C. Joss; Marshal, A. J. Pottorf; Board of Directors, C. S. Evans, H. M. Thomas, E. O. Farrar, F. E. Cheadle, and B. H. Shultze. The election passed off rather quietly. The program was not taken up, and after a parliamentary "rag" the Society adjourned.

C. E. C.

April 4th.
The Alpha Betas were called to order by Pres. Peck. The program was opened with a piano solo by Miss May Bowen. Mr. Morgan led the Society in devotion. The eulogy on Abraham Lincoln by J. J. Fryhofer was well written, well delivered, and was truly appreciated by all. Miss Adelaide Wilder read a very interesting poem. Declamation, H. H. Martin. The Society was very pleasantly entertained by Misses Pfuetze and Lyman in a vocal duet, T. L. Jones at the piano. Mr. Folsom reviewed a very interesting article in one of our popular magazines. G. L. Clothier rendered a vocal solo, which was very much appreciated by all. The Gleaner was presented by Guy Hulett. After recess, the Society was favored by music by the Society orchestra. Mrs. Wilder addressed the Society on the subject "Longfellow." This subject was one which interested all, and was both in-

structive and entertaining. The Society gave Mrs. Wilder a vote of hearty thanks for her talk. After a short business session, the Society adjourned.

M. E. R.

April 4th.
The change of the weekly holiday did not lessen the attendance on the first session of the Websters in the spring term. President Webster called the Society to order at 7:30. After roll call, the Society sang "America" in a very patriotic way. Prayer, J. B. Dorman. After the reading of the minutes, J. A. Gillespie was initiated. The program opened with a declamation by F. Gregory. This was followed by a summary of the week's principal events, both local and general, by A. E. Blair. R. T. Nichols in an excellent essay discussed "Farming." The Webster Reporter was presented by E. Butterfield. It was a good model for the editors that follow him through the term to copy after. The program closed with music from a "paper" band, which awakened the echoes. The Society then passed to the election of its officers for the spring term. The balloting resulted in the election of the following officers: President, C. D. McCauley; Vice-president, R. W. Bishoff; Recording Secretary, W. B. Chase; Corresponding Secretary, J. E. Trembley; Treasurer, W. T. Pope; Critic, S. Dolby; Marshal, W. H. Young; Board of Directors, J. B. Dorman, R. J. Peck, L. A. Nelson, J. M. Harvey, F. Gregory. The remainder of the session was spent in unfinished and new business. J. B. N.

Grounds and Buildings.

The College grounds and buildings, occupying an elevation at the western limits of the city of Manhattan, and facing towards the city, are beautiful in location. The grounds include an irregular plat in the midst of a fine farm, with orchard, vineyard, and sample gardens attached, the whole being surrounded by a durable stone walls. The grounds are tastefully laid out and extensively planted, according to the design of a professional landscape gardener, while well-graveled drives and good walks lead to the various buildings. All of these are of the famed Manhattan limestone, of simple but neat styles of architecture, and admirably suited to their use. All recreation rooms are excellently lighted and ventilated, and are all heated by steam or hot water. A complete system of sewerage has been provided.

College, 152x250 feet in extreme dimensions, arranged in three distinct structures, with connecting corridors. This building contains, in its two stories and basement, offices, reception room, cloak rooms, studies, chapel, library, reading room, kitchen laboratory and dairy, sewing room, society rooms, printing office, and twelve class rooms.

Chemical Laboratory, one story, 26x90 and 46x75 feet of floor space, in form of a cross. It contains eight rooms, occupied by the Department of Chemistry and Mineralogy.

Mechanics' Hall, 39x103 feet, two stories, and 40x80 feet, one story, occupied by wood and iron shops, music rooms, iron foundry, lumber rooms, etc., in addition.

Horticultural Hall, 32x80 feet, one story and cellar, having cabinet room, class room, and storage, with greenhouse attached.

Horticultural and Entomological Laboratory, with propagating houses attached.

Museum Building, 46x96 feet, and two stories high. This building, which has served many purposes, is now fitted for an armory, drill room, and veterinary laboratory below, and for class room and laboratory for Department of Botany and Museum of Natural History above.

Science Hall, containing the library, with ample reading rooms; class rooms and laboratories, and cabinet room for zoology, entomology, and botany; and suitable rooms for the various College societies.

Appropriation is also made for a central steam plant, to furnish heat and power for all the buildings. This plant is to cost \$14,000, and will be completed in the fall of 1893.

The farm barn is a double but connected stone structure, 50x75 feet and 48x96 feet, with an addition of sheds and experimental pens 40x50 feet. A basement, having stables for 75 head of cattle, horses, engine room, and granaries, underlies the entire structure.

The horticultural barn is a stone building, containing store room, granary, and stables for several horses.

The foundries, lumber house, implement house, piggery, and various out-buildings are of wood.

Two stone dwellings, occupied by the President and the Professor of Agriculture.

A Good Education Pays.

1. In dollars and cents. All testimony of statistics agrees in showing that educated laborers of all ranks have better work and better wages than the uneducated.

2. In influence and position. Careful estimates make it certain that the chances of promotion to places of trust and power among men are almost two hundred times as great to an educated man as to the uneducated man.

3. In usefulness. The bulk of good work in the world—discovery, invention, government, philanthropy, and religion—is brought about by those who learn to think by study.

4. In enjoyment. Our pleasures grow out of what we are ourselves more than from surroundings. A well-trained man sees, hears, and handles a great deal more of the world than an untrained one. All things do him more good, not so much because he owns them as because he understands them. He always has good things to think about.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, up on the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

Sorghum Seed for Sale.

The Chemical Department has for sale improved sorghum seed of the several varieties which have proved to be the best in the past years' experiments. An account of these sorts of sorghum will be found in the bulletins of the Station. The principal kinds are Early Amber, Folger's Early, Medium Orange, Kansas Orange, Collier (undendebule), Colman (a cross of Orange and Amber), Denton (another cross).

We have limited quantities of specially selected seed of most of the sorts. Address, G. H. FAILVER, Manhattan, Kansas.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popeno, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc., may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

SHORTHORNS FOR SALE

Several young shorthorn bulls of the best breeding and from good individuals are for sale at the College Farm. Also a fine two-year old Aberdeen Angus bull. Address

PROFESSOR GEORGESON, Manhattan, Kansas.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc.

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Historical Society

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AGRICULTURE IN COMMON SCHOOLS.

BY PRES. GEO. T. FAIRCHILD.

THE culture of the soil is so materially connected with the maintenance of human life that it seems most natural that the facts and principles of agriculture should be the very basis of early education. Yet but few attempts have been made to introduce any systematic teaching in this direction. Even those few have been most striking for their lack of success in arousing or maintaining the interest and ingenuity necessary to develop mind in children and youth. Every text-book offered so far assumes the necessity of furnishing a certain fund of information as to the nature of soils, the nature of plants and animals, and a body of rules for handling all three, phrased in such general terms as to fit all sorts of people in all sorts of circumstances. The effort is to make a sort of trade manual, useful to the experienced farmer in explaining his experience and correcting his practice, but at the same time embodying fundamental scientific statements from the branches of knowledge directly bearing upon the handling of soils and crops. The most elementary work which has come under my notice has the form and method of a little cyclopedia of information about farming.

Many of these books are readable, and as summaries of excellent practice are good for one who already knows by experience the ins and outs of such work; but generally the mere smattering of scientific terms and statements might better be omitted for any light they throw upon the subject. Science cannot be assimilated from words; it must be touched by the senses, and absorbed in its elements. Phosphates and nitrates, carbohydrates and protein sound learned, but mean no more to one who borrows them from a book than to the book itself, unless an intimate acquaintance has been formed with nature as she is working out these compounds. The name and the fact must both be in the mind to give the name a meaning and a use.

Now no such manual can, in the nature of the case, give the intimate observation needed. It cannot teach the botany with which it assumes familiarity. It cannot explain the laws of physics and physiology which it parades as part of agriculture. It cannot even make evident those principles of chemical affinity which give meaning to the names of soils and foods and processes. Of all burdensome science, the epitome of several sciences is worst because it lacks the very first essential of science—the seeing into things themselves.

But such efforts are also unsatisfactory as a means of education because they call for no ingenuity on the part of the learner. To learn and recite what costs nothing but memorizing gives no stimulant to thinking. If language and mathematics were taught simply by rules to be repeated, or propositions to be committed, little would be accomplished in the years spent in school. When geography becomes simply pages of words, it trains memory in tricks and contrivances, but gives no growth. Just so any body of information not directly attached to the activity of a thinking mind gives no result; it is learned to be forgotten, or simply to be paraded as learning.

For many years, it has seemed desirable that some plan be devised for extending to the children on the farms and in the rural villages the advantages of such familiarity with underlying truths within the reach of their senses as might give them the advantage of real knowledge and true ingenuity in using the forces of nature. A child learns easily to watch the processes of nature with a quickening wonder, if led by simple steps into her laboratory. Leaves, flowers, seeds, sprouting, growing, fruiting, — all entice him into testing and questioning nature's action. A study of the elements of soil is natural as to play in dirt, if the true suggestive way is taken. Physiological processes and chemical action follow along in turn as underlying familiar facts, if the child can have his eyes and fingers kept at work. Books become his friends in helping to solve problems, not in setting him tasks by the page.

It is said, the teacher must have his ideals changed! Yes; and so must the parent. So also must the maker of text-books set himself to give problems for child and youth to solve. One question to be answered only by searching the potato field will teach more truth than ten answers ready made and clearly printed. The statement that potatoes are enlargements upon underground stems has little meaning till those stems are seen and compared with the enlarged roots of sweet potatoes. The facts brought

out by suggestions and questions, with problems to be solved by exertion of the native ingenuity of children, teaches the self-help which makes growth, makes knowledge, makes ability.

Agriculture will never take the place it deserves in the schools till it forms such a basis of daily thought in school life as to quicken inquiry and stimulate interest in its wonderful field of information. Let the facts touch the children, and the applications will come to youth and manhood. Otherwise, we must wait for the need of application to awaken interest in facts, and so be too late to take time to find them.

What teachers will begin the task aright? What authors will put their best before the coming generation?

PENS AND PENCILS.

BY JOSEPHINE HARPER.

THE steel pen as we have it to day is a product of the present century, and the first made and offered to the public were known as Wise's barrel pens. These were poorly made and not a success. Some years later the manufacture of steel pens was begun in Birmingham, and being well made, at once came into general use. The first gross of steel pens are said to have been sold in Birmingham for eight shillings at wholesale. The manufacture of steel pens soon became recognized as an independent industry, and pens have been getting better and cheaper ever since, until now we can buy the best pen made for a trifle.

Every country engaged in manufacturing excels in the making of one or more articles. This is true of the production of pens. England has always made the best steel pens, and America is noted the world over for her gold pens.

Some years since I spent a day in a leading pen and pencil factory of the old world, and found it most interesting and instructive. The pen factory had been in operation for years, but the pencil department was a child in years if not in proportions.

The founder of the present firm I had met some weeks before, and by his arrangement made the visit to the factory. He took me through the concern and showed me every detail. I saw the steel before it was made into pens, and watched the process of making, which I shall not attempt to describe, as that would show my lack of knowledge of machinery. After the pens were made, the imperfect ones were sorted out, the perfect ones placed in boxes, the boxes labeled, and these small boxes holding the pens were packed in larger boxes, these in their turn being given a particular label and then sent to the storehouse, there to await shipment to the wholesale dealers.

The private office of the head of the firm was the last place visited, and here was a real treat to one interested in the antiques. In one corner of the large and well-lighted office was a glass case containing a sample of every kind of pen made by the house, and as the original firm began operations in 1830, the collection showed almost a complete history of the art of pen making. Interesting as a study of the pens was, still more interesting was an examination of the curios the case contained. The greater part of them were secured in the Orient by the head of the house while on a mission for his government. The owner showed, with pardonable pride, an ivory stylus and its accompanying waxen tablet. The stylus has one end pointed and the other flattened, the flattened end being used to erase errors made in writing. I tried writing with the stylus, but succeeded even worse than with the best stub pen, so concluded it was but an indifferent writing instrument, and, had I lived in the time of Socrates, would not have been able to read my own writing.

When parchment and papyrus came into use, a more flexible pen than the stylus was needed, and reed pens were invented. The reed pen shown was shaped to a point, and split very much like the pens of the present day. The case held a number of quill pens, made from the quill of the goose, the swan, and the crow. I had always supposed that the crow was of no particular use, except to caw, caw, and destroy grain for the farmer in the spring, until I saw the quill pens. Pens made of glass, horn, and tortoise shell gave the impression of the material having been put to the wrong use.

The pencil factory, viewed from one side, presented the appearance of a well-regulated lumber yard, as the factory sawed its own lumber and disposed of the

refuse to a pump factory on the other side of the stream. The wood used is cedar, and the pencil industry requires a great amount every year. Other woods have been tested with a view to finding a substitute, but so far without success.

The graphite is ground and mixed with care; and in the proper mixing is the pencil maker's secret. The mixture is placed in a machine that looks like a sausage mill; from this mill are forced streams of lead the right size for a pencil. The threads of lead are cut off the proper length and placed in a peculiar kind of an oven and baked, and when hard are glued into the grooves of the wood. The rough pencil is then shaped round, hexagonal, and sometimes triangular, at the rate of several thousand a day. They are then colored, varnished, burnished, and stamped.

At lunch time we went to the queerest little summer-house, situated on a ledge overhanging the water-fall, affording a magnificent view of the river above, and the gorge below the fall. There the good wife and second son were waiting for us, and directly a toothsome luncheon was served by a neat house-maid.

PICTORIAL DRAWING IN THE PUBLIC SCHOOL. II.

BY PROF. J. D. WALTERS.

THE main difficulty which the pupil meets in model and object drawing is to distinguish between the real form and the apparent form. Many educators, aware of the close relation of the two, have held that the study of apparent form involves the closest analyses of the real form. They have taught that all objects to be sketched should first be carefully measured and projected. This view is evidently incorrect, though a teacher should never fail to discuss the peculiarities of form of the model before he asks the pupil to draw it.

The fact is, that we obtain of all things the appearance before we get the reality. The latter is a deduction based on experience. In the cradle the child apprehends nothing but appearances, but by long practice in rejecting appearances for the facts, as he learns them to be, he loses the power of seeing appearances, and he thinks he sees only the facts. For instance, an infant sees a circle obliquely only as an ellipse, but by much experience in handling the circle the child learns as a fact that it is always circular; and in time the fact of circularity drives out the memory of the ellipse, and the child thinks the circle appears circular in every position. What the pupil needs, then, is not so much the facts of form as the facts of appearances. The former may mislead him. They will induce him to make his ellipses too circular, and the angles of his cube too nearly right angles. In looking at an object, the ratios of the parts are changed; lines appear as points, planes as lines, long lines short, and short lines comparatively long; large angles appear small and small angles large. The main effort of the teacher of drawing from the model is evidently to get the pupil for the time being to see the object to be drawn as he saw it when an infant; in other words, to help him regain his power of believing what his eyes would reveal to him.

The practical work in pictorial drawing may be divided into three parts. First, the drawing of the outline; second, the adding of light and shade; third, the coloring.

Drawing the outline of an object is the first step in order and importance; for no amount of shading and coloring can make up for an incorrect outline. It is often objected that there are no outlines in nature. This is true in a certain sense, and in fully shaded or colored pictorial representations all outlines are indeed left off. Oil or water-color pictures of high-grade finish show no outlines to the represented objects. A well-made photograph displays the shades without a formal outline. Yet, where all shades and all color is left off, there must be something to fix the form of the represented things upon the page. Even where colors are used in finishing, it is necessary to make a sketch of the form first of all.

Every object has definite form and size, and though it may not be outlined, it has boundaries; and though the representation in outline may be conventional and incomplete, effects can be produced by lines that convey a very fair impression of the character of the object and of varieties of surface and texture.

However desirable it may be to include the study of color and coloring, it must be admitted that the practical difficulties of doing such work in large classes and as part of the routine work of the school seem insurmountable. The ordinary high school

room lacks proper light, proper space, proper easels, proper tables, proper closets, and proper models and charts. The school lacks funds to provide colors, dishes, brushes, and high-grade water color paper. It lacks teaching force to give adequate individual instruction, and often enough it lacks also sufficient preparation on the part of the pupils; i. e., the proper educational foundation in form study. Work in oil is still more expensive, and is impossible also on account of the penetrating smell of the oils, turpentine, and varnishes, and because of the untidiness always resulting from their use.

Similar objections may be raised against the use even of charcoal, crayon, and colored pencils because they soil the hands of the pupil and produce an unclean schoolroom. These media have all been tried and found wanting. They have no advantage over the pencil and the writing pen; on the contrary, they are more expensive, and do not permit erasing. The pencil is not only cheaper and neater, but it requires less time to sharpen and less bother to take care of. When the crayons or the brush are tolerated in school, there is also constant danger that the aim of both pupil and teacher will be to produce something for exhibition rather than for intellectual growth.

Some educators object to the use of ink because the pen cannot be drawn with equal facility in all directions, and because shading done with the pen must be in the form of dots and lines, instead of evenly distributed graphite or color. Both objections have some force. It may be answered, however, first, that the pen is a tool which for lightness of touch and ease of motion does not stand much behind the pencil; second, that it is a gain for the pupil if he learns to handle the pen more lightly, even if he should thereby acquire a vertical "hand," which is almost invariably the result; third, that since the invention of blue-printing, and especially since the invention of the beautiful processes of photo-zinc etching, shading in lines has for all practical purposes of drawing and illustrating become the universally prevailing method, while charcoal work has no technical applications; fourth, that pen and ink drawings upon good paper are far less destructible, and far cleaner in appearance than any other drawings; fifth, that artists generally agree that pen drawing is the most delightful of all arts.

The teacher should take care that all inking is done with black ink, not with fluid or colored inks. The pen holder should be held a little more upright and should be pinched a little more tightly than in writing. The pen should not be fine-pointed or very elastic, and the blotter must not be used. In cross-hatching, i. e., in crossing one set of tint-lines by another, the first set should be perfectly dry before the second is laid in. All inking should be done over good outline sketches made with a sharp medium pencil. The tint-lines should never be sketched, but should be drawn with the writing pen without previous marking.

Some Rural Don'ts.

Don't starve your land, lest it starve you.

Don't forget to make deposits. Your farm is like a bank. All drafts will be honored if you keep your account good by frequent deposits of fertility.

Don't let your fences get out of repair and have trouble with your neighbors.

Don't borrow if you can avoid it. If you do, return promptly, in good condition, or make it good.

Don't make a debt if you can possibly go without it. Interest has eaten many a man out of house and home.

Don't idle your time away. Usefully employ it, and you are on the road to prosperity.

Don't grumble, or look on the dark side of things.

Cheerfulness brings health and friends, and leads to success.

Don't forget to let your wife and children have a little of the money they have earned to gratify their individual wants and tastes. It is only justice.

Don't forget to be temperate in all things; not only in eating and drinking, but in labor and pleasure, and in all the multifarious affairs of life.

Don't lose your head. Keep cool, and use sense. Don't get mad and rattled.

Don't let the weeds grow and seed, lest they absorb your profits.

Don't neglect the garden, as it adds much to the pleasures of the table and healthfulness of living.

Don't forget that fruit often takes the place of medicine, and is much cheaper. There is pleasure in eating that of your own raising.

Don't forget that the pure air, sunshine, and freedom of the country is much more wholesome than being caged up in the city.

Don't forget that the country is the place to raise up a family of boys and girls away from the contamination of city and town life.

Don't forget that flowers in doors and out are the most attractive of all forms of ornamentation. A humble cottage, with its shrubs, vines, and flowers, lingers in the memory of the passer-by, when the stately mansion without nature's beauties has been forgotten.

Don't forget to give the boy and girl a practical ed-

ucation. All theory and no practice makes a worthless man or woman.

Don't forget that the farm newspaper is full of helpful suggestions. You need one, or more, to post you in your profession. It is the literature of your business.

Don't think you know all there is to be learned about farming; you are only on the edge of its possibilities.

Don't forget that the pleasures of farm life will be much enhanced by the advent of good roads and free mail delivery.—*L. L. Fairchild, in Country Gentleman.*

The Farm Paper's Mission.

Whatever may be the mercenary motive which leads to the founding or maintaining of farm papers, the function of the paper is the aiding of its subscribers in their particular line of work. Since not many papers are willing to pass as representatives of the "fancy" element, it has come to pass that practically all of these papers are competing for the subscription of the "common farmer." And since it is this class which supports these papers, it would seem that the proper study of the farm paper is the betterment of the same.

Expressed in terms of brutal frankness, this means that the typical farm paper is, or ought to be, devoted to the cause of the ninety per cent. The ten per cent is composed of fanciers, "make believe" farmers, fad farmers, seed farmers, and side-issue farmers. And the writer, in common with the rest of the "common farmers" of the country, prefers a charge of treason against all of these papers which use the support got from us in catering to the ten per cent.

There can be said nothing against the publication of papers in the interest of the ten per cent. It has a right to them. It needs them. And it demands them. Much good is done by their publication. It is perfectly legitimate to consider, in their columns, the problems that confront this class, as also the methods of work in this branch of agriculture. But the unfortunate feature of this is that it seems impossible for the ten per cent to appreciate the fact that ten per cent farming and ninety per cent farming are radically different, and hence difficult to keep it out of the practical paper.

It is further an unfortunate fact that the smaller class, numerically, are much more prolific in farm literature as well as more aggressive and opinionated, with the result that it dominates the papers which are popularly supposed to be run in the interest of the other class. This is unfortunate; for, while for a small proportion of our people these so-called "out-of-the-rut" methods are eminently proper, it is a lamentable fact that they require decided modification before they are entitled to be considered practical.

That is a very trite saying "where there is so much smoke there must be some fire," but it is as true as it is trite. When it is only the men who do not read the papers who rail at their impracticability, it is scarcely fair to seriously consider the charge. But when the best and most practical, as well as the best read farmers of a given community make the same complaint, it is not fair to try to squelch them by calling them names. Would it not be better to try to stamp out the fire that is making the smoke?

For example: One man rides along through our territory, notices that A's cows are out in the field on a winter day, that B's tools are exposed to the weather, that C's manure pile is smoking and D's fences are in poor repair. These observations are made the basis of an article on "Observations from the Car Window," a homily on the unprogressive and unappreciative American farmers against whom they lay the serious charge that "We have piped unto you and ye have not danced." If he knew that A had lost money unexpectedly and unobservedly, that B carries a heavy debt, that C's number of stock is too small to justify a shed for the manure, and that D's health is poor and his need of fences small; if he knew all of this, would not the observations have been of a more sympathetic character or have remained unpenned?

Undoubtedly seed raising pays better than common farming. Shall we all therefore be growers? Theodore Havemeyer will make vastly more money selling Simmental bull calves at \$500 each than we can make selling veal calves at \$5. Shall we therefore all raise thoroughbred and registered stock? Unquestionably there is more of profit in an acre of potatoes at \$100 net per acre than in an acre of wheat, but oddly enough when we are just getting fairly started in this progressive line of farming we are called on to halt by the very same men who but a season or so back pointed out the potato farmer as a bright and shining example of what we could do if we would also get out of the ruts. This, in fact, suggests the horrid thought that perhaps the farmer may not have a monopoly of ruts.

The cold and naked fact is that the ninety per cent and the ten per cent will find it necessary to farm in different manners in the future just as they have done in the past, with the difference that if the ten per cent will accept the fact and meet it fairly there will be a better feeling and a higher degree of mutual confidence and respect than has obtained heretofore between the two. Like the poor, you will likely have the ninety per cent with you always. Their relief does not lie in trying to change them over to the ten per cent, since that will be to crowd out some of the latter into the larger class again. The help, rather, must come through practical methods adapted to those who are expected to profit by them. And superficial and unsympathetic criticism, the slopping over of impractical enthusiasts, and the ignoring of the hard, practical realities of farm life, and the denial of the fact that the common farmer is possessed of at least a reasonable amount of intelligence, these are things that the farm paper will do well to avoid if it is really desirous of helping the farmer—and itself.—*Horner Jackson, in Farmer's Magazine.*

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.

1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Miss Freddie Slemmons was an interested visitor today.

Mrs. Paddleford of Stockdale visits this week with her daughter in Fourth-year classes.

Assistant F. C. Burtis has bought the pleasant home of Geo. E. Hopper on Fremont Street.

Mrs. Gardiner of Bradford, who is visiting with Mrs. Willard, spent some time at College during the week.

Janitor McCreary has rented the Gale house just outside the College grounds, and will take possession May 1st.

The Battalion officers and sergeants and the Cadet Band contemplate giving a banquet to their lady friends in the near future.

Prof. Georgeson read a paper on "Co-operative Dairying" at a meeting of the Co-operative Association in Topeka last Friday.

Among the visitors today were Mesdames Wm. Stingley, Emma Brown, and Johnson and Misses Alice Allingham and Mabel Dodge.

Will Poole, Second-year, is compelled to drop out of classes for the remainder of the year on account of his mother's continued ill health.

Prof. Mason spent a few days the first of the week at the irrigation experiment station near Oakley, and made arrangements for beginning the season's work.

Mr. Geo. O. Bloome, representing the Topeka *Capital*, visited College on Thursday in company of Mr. J. C. Day, and added a number of names to his subscription list.

Prof. Olin attended a meeting of the Kansas Academy of Language and Literature at Lawrence on Thursday and Friday. He is a member of the Executive committee.

C. F. Doane and A. E. Ridenour, Fourth-years, took the civil service examination at Topeka on Wednesday. They met Mattie Farley-Carr, '89, and E. L. Frowe, '94, who were on the same errand.

The Y. W. C. A. have elected the following officers for the next year: President, Emma Finley; Vice-President, Maggie Correll; Recording Secretary, Ethel Wolfley; Corresponding Secretary, Cora Thackrey; Treasurer, Minnie Spohr.

The Seventh Division of the Senior Class entertained the public in chapel this afternoon with an exceptionally good program, as follows: Music, Cadet Band; O. A. Stingley, "The Old and the New South;" T. L. Jones, "National Songs;" Mary Pincomb, "One American Woman;" J. B. Dorman and J. D. Trumbull, "The Third Term Tradition;" Original March, T. L. Jones; Grace Secret, "What of the Past;" E. H. Webster, "A Social Problem;" John Poole, "A Secret Organization;" Miriam Swingle, "The Study of Psychic Phenomena;" I. A. Robertson, "The Labor Question."

Experiment Station Bulletin No. 55, by the Horticultural Department, has just been issued. It treats of small fruit culture by irrigation. The first part is devoted to water supply, storage, and distribution. Full directions and plans are given for the building of reservoirs and the distribution of water. Distribution of water by means of small open ditches is best where sufficient pressure cannot be obtained to make the use of a hose possible. The second part treats of the culture of the strawberry, the object being to encourage this branch of horticulture among farmers and owners of town lots. Directions for location, methods of culture, propagating, setting, mulching, boxing, and crating are given in full, and if carefully studied and followed, will, in a great degree, insure success to one having no personal experience by which to profit. A table is given showing the best twenty varieties as grown on the experiment plats at the College. The six best of these twenty are Warfield, Martha, Boynton, Parker Earle, Crescent, and Saunders.

Officers of the battalion, commissioned and non-commissioned, are as follows for the spring term: Company A—Captain, W. A. Cavanaugh; First Lieutenant, M. Wheeler; Second Lieutenant, H. M. Thomas; First Sergeant, E. L. Hougham; Second Sergeant, W. R. Correll; Third Sergeant, J. H. Bower; Fourth Sergeant, E. C. Butterfield; Fifth Sergeant, A. E. Blair; Corporals, E. V. Hoffman, L. Wolf, G. D. Hulett, D. Akin, A. D. Coe; Company B—Captain, F. E. Uhl; First Lieutenant, E. Emrick; Second Lieutenant, H. N. Rhodes; First Sergeant, A. B. Synns; Second Sergeant, G. G. Menke; Third Sergeant, S. Nichols; Fourth Sergeant, W. Anderson; Fifth Sergeant, E. B. Patten; Corporals, J. G. Haney, F. W. Foster, J. H. Lee, T. W. Allison, L. A. Nelson, F. W. Bobbitt; Company C—Captain, G. W. Finley; First Lieutenant, R. W. Bishoff; Second Lieutenant, B. R. Hull; First Sergeant, H. E. Smith; Second

Sergeant, G. G. McDowell; Third Sergeant, M. R. Smith; Fourth Sergeant, W. T. Pope; Fifth Sergeant, C. Kenney; Corporals, C. E. Copeland, L. P. Keeler, C. P. King, F. Whitelock, P. K. Symns, L. E. Potter.

Darling, Brown, and Sharp of Providence, R. I., have presented to the Mechanical Department a twelve-inch tempered steel rule. The great excellence and accuracy of their rules has made them standard all over the world, and to produce a hardened steel rule of great accuracy they consider one of their greatest achievements.

GRADUATES AND FORMER STUDENTS.

Etta Smith, '95, spends this afternoon at College.

Lucy Ward, student in 1894-5, is attending the State Normal at Emporia.

J. A. Plowman, Second-year in 1894-5, is head carpenter at the Topeka Insane Asylum.

Sherman Coe, student in 1890-91, will be married, April 30th, to Miss Julia Ashbrook of Manhattan.

E. C. Abbott, '93, is located at Trinidad, Colorado, with his father for a partner in the practice of law.

C. H. Paul, Second-year in 1892-3, visited College Tuesday. He taught in Marshall County last winter.

S. N. Chaffee, '91, was granted an institute instructor's certificate at the last meeting of the State Board of Education.

W. H. Harling, '93, is the most recent addition to the post-graduate forces. He pursues botany and horticulture.

Elsie Crump, '95, and Bertha Spohr, Second-year in 1892-3, teachers in the city schools, were in attendance at the public exercises today.

Isaac Jones, '94, is chosen by the Experiment Station Council as Assistant in Irrigation at the new plant near Oakley, and will begin work May 1st.

Since his marriage, on October 16th last, H. L. Pellet, '93, has farmed near Prairie Center. He fed over 100 head of cattle through the winter, and holds them yet for a better market. He will be here Commencement week.

Mary E. Wilkin, Third-year in 1894-5, teacher in the Manhattan schools, read a paper on "Discipline as a Factor in Mental and Moral Development" at a recent meeting of the Riley County Educational Association, which is published in the last number of the *Educator*.

Grant Dewey, '90, visited College several times during the week to make photographs with which to illustrate the forthcoming catalogue. New engravings will be made for Science Hall, kitchen, sewing room, printing office, Cadets, surveying squads, and chemical work room.

Dr. H. S. Willard, '89, is promoted, as noted in a recent issue of the *Topeka Capital*: "The State Board of Charities, which is in session in this city, yesterday selected Dr. H. S. Willard of Manhattan as Assistant Superintendent for the Topeka Asylum. Dr. Willard has been at the asylum for some time. He will succeed Dr. J. M. McQuaig, who was brought to the institution from Pennsylvania last summer by the Board. Dr. McQuaig was forced to resign because of ill health. He returned to New York, where he was compelled to undergo a surgical operation as the last resort. Since the operation he has been very low."

Notes from the Orchards and Gardens.

It may be remembered that three years ago the Department undertook some experiments in making apple grafts with different lengths of stock and cion, the idea being to test the truth of the claim made by some nurserymen that apple trees grown from "whole-root" grafts were preferable to those grown from the ordinary piece-root graft. Three lengths of cions were used—six-inch, twelve-inch, twenty-four-inch—and the stocks were "whole-root" five-inch, two-and-a-half-inch, one-and-a-fourth-inch, each kind of stock appearing in the series grafted both above and below the cions. In all, some 10,000 grafts were made. In the spring of 1894, and again in 1895, this experiment was repeated, so that we now have the entire series represented in one, two, and three-year-old trees. Sample trees have been selected from each lot for photographing, average trees being selected, and those which showed as clearly as possible the original stock and the roots that had grown from it. The result will be a very interesting and instructive series of photographs, and the showing is not altogether favorable to the "whole-root" process.

The Scuppernong grape vine, which fruited last year for the first time, has again been brought through the winter in first-class condition by being covered with earth early in the fall before heavy frosts. It should bear considerably this year, as it has much more bearing wood than last year.

As yet, it is too early to judge what the grape crop will be, but the promise for apples, pears, peaches, and plums is certainly flattering, on the supposition, of course, that we do not have a late frost. Apricots bloomed so early that they have set a very light crop of fruit, and the College strawberry bed does not promise as large a crop as usual, owing principally to the fact that the setting of new plants last season was not as abundant as usual. Quite a number of the varieties of apples in the new experimental orchard are blossoming this spring, and it is hoped that

a fair proportion of them will set fruit. As many of them are the newer varieties, their behavior in this climate and their adaptability to it will be watched with interest. Last year the Cooper's Early White was the only variety which bore fruit, and that only a few specimens.

The forestry plantings which are to be made on the farm for the U. S. Division of Forestry will be begun Monday. The ground is prepared, and several consignments of young forest trees have already arrived, among others 1000 bur oaks from Nebraska and 1000 white spruce from Douglass & Son of Waukegan, Ill.

Last fall, twenty-five each of the well known roses Perle des Jardins, Papa Gontier, Sunset, Bon Silene, Bride, Bridesmaid, La France, and Meteor were set in the east of the old greenhouses. They have been in bloom for some time, and so far the record of blossoms cut is as follows: Bon Silene 114, Perle des Jardins and Sunset each 62, La France 48, Papa Gontier 46, Meteor 41, Bridesmaid 36, and Bride 30. From a commercial standpoint, the Perle and Sunset are by far the most profitable, as there is much more demand for them than for any other sorts, and with the exception of Bon Silene they have furnished the most blossoms; and the indication is that they will continue to yield as they have begun.

A few cuttings have been made from the asparagus bed, which is now two years old from seed. Many of the varieties show but little variation, yet others are quite distinct. The Columbian Mammoth White differs from all the rest in being a very light green throughout the length of the stalks. It also produces large, handsome stalks, and would seem to head the list as a desirable variety. Moore's Giant Cross-bred is if anything more stalky than the Columbian, but the stalks have the purplish tinge common to most varieties, and therefore not so attractive as the latter. The relative merits of the different varieties can be better judged another year, when the bed will be more fully established, and it will be cut more systematically and for a longer time than is now advisable.

F. C. SEARS.

Regent Riddle Resigns.

The resignation of Regent A. P. Riddle, after attending one session of the Board, is received with both surprise and regret. Gov. Riddle's statement in his paper, the *Minneapolis Messenger*, gives his reasons:

"On our return from a trip to Pennsylvania, on March 30th, we found a letter from Gov. Morrill containing an appointment as Regent of the State Agricultural College. This was a matter of some surprise, as we did not even know that our name was being considered.

"While appreciating very much the good opinion of the Governor, and the intended kindness, the place is one we did not care to accept. We would at once have declined the appointment had we not feared to do so on such short notice might occasion trouble. The annual meeting of the Board of Regents was to be held on April 1st, at which it would become necessary to re-organize the Board, the term of two Regents having expired. At this meeting, too, engagements must be made for the corps of instructors for the ensuing year, the salaries fixed, and, to a large extent, the relation between the Experiment Station and the College defined.

"We therefore wrote to the Governor that we would accept the position long enough to complete this work, but would then resign. In accordance with that expressed intention, our resignation was sent in immediately after the conclusion of the meeting.

"We notice by yesterday's paper that the Governor has appointed Mr. Adrian Reynolds, editor of the *Sedan Times-Star*, to the position. From what we know of Mr. Reynolds, his appointment will be of benefit to the College, and he will find the position a pleasant one, with immense possibilities for serving the people of his State."

COLLEGE ORGANIZATIONS.

Student Editors.—Gertrude Havens, E. G. Gibson, F. E. Uhl.

Alpha Beta Society.—President, M. G. Spalding; Vice-President, Clare Wilson; Recording Secretary, Ed. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce; Board of Directors, J. M. Westgate, Guy Hulett, Marian Gilkerson, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, C. D. McCauley; Vice-President, R. W. Bishoff; Recording Secretary, W. B. Chase; Corresponding Secretary, J. E. Trembley; Treasurer, W. T. Pope; Critic, S. Dooley; Marshal, W. H. Young; Board of Directors, J. B. Dorman, R. J. Peck, L. A. Nelson, J. M. Harvey, F. Gregory.

Hamilton Society.—President, C. E. Pincomb; Vice-President, W. L. Hall; Recording Secretary, L. G. Hepworth; Corresponding Secretary, V. Maelzer; Treasurer, A. D. Coe; Critic, E. C. Joss; Marshal, A. J. Pottorf; Board of Directors, C. S. Evans, H. M. Thomas, E. O. Farrar, F. E. Cheadle, B. H. Shultze.

Ionian Society.—President, Minnie Pincomb; Vice-President, Winifred Houghton; Recording Secretary, Sue Long; Corresponding Secretary, May Bowen; Treasurer, Flora Allingham; Critic, Maggie Carleton; Marshal, Bessie Lock.

April 11th.

Pres. Webster called the Websters to order at 7:40. On account of the rain, only part of the members were present at roll call. E. G. Gibson led in devotion. The officers for the ensuing term took the oath of office. Pres. McCauley, in response to a call for an inaugural, outlined his intended course for the term, and gave some good advice. Ex-Pres. Webster, in his valedictory, spoke encouragingly to the Society. B. F. Snodgrass then cast his lot with the Websters. The question for debate, "Resolved, that the student should have partisan views," was upheld on the affirmative by E. H. Webster and R. W. Bishoff; on the negative, by M. Wheeler and F. H. Meyer. The affirmative said that partisan views are not prejudiced views. To be partisan is to have principles that we believe in and to stand by them. A true partisan is free to accept the views of others. He may change his views, but is still a partisan if true

to his belief. If we have partisan views, we take interest in questions and study them. If we have no views of our own, we are subject to the influence of any one who may speak to us and cannot be depended upon. The negative said that a person is hardened to the views surrounding him. If, in our limited course of political science in College, we allow our partisan views to predominate, we will not, as we should, study all sides. If we would get the most from our course, we must study with a non-prejudiced view of the subject. If a person has no partisan views, he naturally studies all sides; a partisan view tends to produce a prejudiced view. The affirmative won the question. H. L. V. Uhl showed his oratorical ability by declaiming, "Sheridan's Ride." A well written oration, entitled, "A Question of the Day," was delivered by L. A. Nelson. P. K. Symns, as music committee, introduced W. J. Rhoades, who favored the Society with a piano solo. An excellent edition of the Reporter, with the motto,

Be unto others' faults a little blind;

Be unto their virtues kind,

was presented by S. Nichols. C. Wheeler favored the Society with a variety of music. The remainder of the evening was taken up by unfinished and new business.

J. E. T.

April 11th.
The Alpha Beta Hall was well filled when Pres. Peck called the Society to order. T. L. Jones opened the program with a piano solo. Mr. E. A. Powell led the Society in devotion. Male quartette, Messrs. Spalding, Cowl, Jones, and Tannehill. Mr. Spalding was initiated as President for the ensuing term. Mr. Peck, in his valedictory, said that he felt that the past term had truly been a term of progress; that the work and membership had increased. He felt that he was leaving a place of honor, but would gladly resign to the President-elect, knowing that he is one who will put forth his best efforts for the good of the Society. Pres. Spalding thanked the Society for the honor they had conferred upon him by placing him at the head of the Society. It was his intention to give his best work to the Society, and asked their aid in the coming term's work. Miss Mary Painter, in her oration, presented to the Society the problem of duty. We so often put aside the little things and begin on larger things which we feel must be our duty. Let us be more careful in the little things, for it is only in doing our duty in these that we learn to appreciate the greater, and that our ideal is reached. Miss Harriet Thackrey, in her declamation, told us of the new stove. In a well written article Miss Channel portrayed the life of William Edgar Nye. The Gleaner was presented by Hattie Paddleford. The Society then listened to a male quartette consisting of Messrs. Tannehill, Moyer, Hulett, and Rumold. After roll call, the following officers were elected: Vice-President, Clare Wilson; Recording Secretary, E. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce.

M. E. R.

College Athletics.

It would be unpardonable if the institution founded by Ezra Cornell and endowed by benefactors like Henry W. Sage—men born poor who gave their hard-earned savings that the children of the people might be blessed with the highest education—should degenerate into a school of sports for the athletic. Better no intercollegiate games, a thousand times better, than the slightest infusion of athleticism into the spirit, the faintest blending of athleticism with the aims, the mildest incorporation of athleticism with the traditions, of Cornell University. Let this continue to be a place where brave and frugal young men and women, most of whom work that they may have wherewith to study, prepare, with stout hearts and aspiring souls, to climb the heights of knowledge, to gain cultivation and enlargement of mind, to acquire liberal and practical education. In the country at large athletic excesses are misinterpreting to the public the vocation and uses of the highest schools of learning. And there is no little danger that the very ideal of the college may be temporarily eclipsed. So far athletics have not perverted Cornell from the primitive intention of her founders. And athletics must in the future be so regulated that they shall not hinder Cornell realizing the true object of a university.

Rivalry is the essence of all games; and in games between different colleges rivalry has the freest scope. Human nature, therefore, being what it is, the very idea of college sports is inseparably associated with intercollegiate games. And if such playing can be kept moderate, healthy, and innocent, it is greatly to be desired alike in the interest of sports and for the promotion of physical exercise among students to which sports are an effective stimulus. But this result may be too dearly bought if that condition is ignored or violated. And it may be reasonably doubted whether intercollegiate athletics in the United States have of late years been, in general, moderate or healthy or innocent. It has already been stated that schemes of money-making mingle with intercollegiate football, which has been attended with other evils also. But the canker of all intercollegiate athletics today is the fierce desire to win, which is eating the heart out of the genuine sportsman's love of sport for sport's sake irrespective altogether of the prize of victory. The concomitant of this blight is not far to seek. The sport and recreations of amateurs tend to become the business of professionals; the work is henceforth controlled not by the honor of sportsmen, but by another code borrowed from the school of professionalism. It is hoped that the action already taken by the Cornell Faculty, combined with the efforts of the Cornell Athletic Association, will save Cornell athletics from this deterioration of which every college may today be justly apprehensive. As intercollegiate athletics are to be tolerated only when they do not interfere with the work of the students, or do not distract institutions of learning from the purpose of their existence, so furthermore, they must not be encouraged; they should be forbidden, unless players and managers recognize that far above records and victories, higher than sports, higher even than physical culture, are self-respect and courtesy to others, good manners and morals, and that generous manliness which is the spirit of the amateur and the conscience of the sportsman. Nothing would so certainly contribute to this result, nothing therefore could be so advantageous to athletics in the colleges, as the thorough learning of the lesson, and taking the lesson to heart, that the true end of sports is not victory, but the thrill of honorably contending for it.—Extract from President Schurman's Report, Cornell University.

What to Do Next.

It is a wise man who knows what to do next. No matter where you are placed, there is always one thing to do which is more important than all others. The wise man instinctively turns to that most important work first. The unwise man, the man who never succeeds, the man who is always behind with his payments, with his work, the man who is always losing money, is he who makes a mistake in what to do next. His next work is not the most important work, and the really important work is neglected.

Every man considers himself competent to superintend a fruit farm and nursery, or a grain farm. The fact is that many would fail in that capacity, for the reason that they would not know what to do next. Take, for instance, the fruit farm. At every season of the year there is some one important thing to be done that cannot admit of delay. Often there are many such important things, when it will perplex the wisest to know which to do first. But the capable man, though he has to study the question for hours, finally hits upon the most important work, and that is the thing which he will do next.

I know of men who think they are doing the most important work, and yet who allow the worst farm weeds to go to seed upon their place, without attention. Surely, the dock, one plant of which would seed down a whole farm, should be considered one of the most important things to be attended to. I know of men who drive around in rickety wagons, tires loose, thills rattling, boxes ready to fall to pieces, who think they know what to do next; when the fact is, the next thing they should do would be to get a new wagon or to repair the old one. The same farmer runs his mowing machine, his reaper, his plows and cultivators, with bolts loose and every thing shaky and rickety, thinking he knows what is best to do next; whereas, the first thing he should do would be to put his machinery in good working order. What should you do next, reader? Possibly you should inform your wife that she has been a good devoted helpmate. Perhaps you should give your boys a holiday. Possibly you should all take a day off together for a picnic or excursion.—*Green's Fruit Grower.*

Breathe Through the Nose.

From obstructions caused by incipient catarrh and from habit, too, young children breathe through the mouth. If parents would make it an axiom of the nursery and the playground, "Breathe through the nose only," the cure would be well begun. Let the lesson be repeated, enforced, and insisted upon until it becomes second nature with the child. Let it be more familiar with the daily routine of exercise and as necessary as the meals.

Set it as part of the child's education that he shall walk a certain number of rounds at the playground at a rapid rate with his lips tightly closed. Make the opening of them a demerit, and the completion of the task in accordance with the directions a merit. Increase the distance and the speed daily. When a boy or a girl can walk at a rapid pace, or better, run 300 yards, breathing only through the nose, and repeat the performance twice during the day, there need be small fear of chronic nasal catarrh.—*Medical Journal.*

Cheerfulness A Tonic.

Cheerfulness refreshes the heart, eases the mind, and throws a powerful influence over the whole body. It is indeed a great help and strength to one in meeting the many difficulties of this world. The use of cheerfulness (although perhaps not acknowledged by all) will crowd many a grief and heart-ache entirely out of existence. To be strictly honest, to live between the two extremes, labor and repose, to be kind to our fellow beings, and to love God with our whole heart, is the way to cultivate cheerfulness. We may perhaps class it a talent, but it is indeed a duty we owe ourselves to cultivate it. Have you ever noticed how cheerfulness will lighten our burden, smooth our pathway, and sweeten our cup as we travel on our every day routine of duty? If we are cheerful and contented, all nature smiles with us, the air seems more pure, the sun shines brighter, the little birds sing more sweetly, and, indeed, it acts as a medicine to our souls. It smooths our passion and keeps us in a perpetual calm.—*Ida M. Holman.*

Sorghum Seed for Sale.

The Chemical Department has for sale improved sorghum seed of the several varieties which have proved to be the best in the past years' experiments. An account of these sorts of sorghum will be found in the bulletins of the Station. The principal kinds are Early Amber, Folger's Early, Medium Orange, Kansas Orange, Collier (undendebule), Colman (a cross of Orange and Amber), Denton (another cross).

We have limited quantities of specially selected seed of most of the sorts. Address, G. H. FAILVER, Manhattan, Kansas.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

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Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popenoe, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

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F. C. BURTON, M. Sc., Agriculture

D. H. OTIS, B. Sc., Agriculture

F. C. SEARS, B. Sc., Horticulture

J. B. S. NORTON, Botany

COUNTRY SCHOOLS.

BY PROF. E. R. NICHOLS.

THE following extract is from Baldwin's Art of School Management:—

"Advantages of country schools.—These are many and great, and should be fully utilized.

"Vigorous physical manhood is a prominent and marked advantage. Country life and rural industry are far more favorable to physical development than are the conditions of city life.

"Habits of industry, necessitated by country life, are largely to the advantage of country pupils.

"The social and moral influences are also decidedly to the advantage of the country pupils.

"Nature favors the country school. Animal and vegetable life surround the child. The means of culture are inexhaustible."

The disadvantages are as fully set forth, but this is sufficient for my theme. It is to the fourth subdivision that I wish especially to call attention.

It was my good fortune to attend a country school where nature had dealt out lavishly her gifts of animal and vegetable life. The building was, like every other schoolhouse of its day, a large, rectangular box, with a stone foundation at the bottom and roof on top; furnished with home-made seats and desks, which, later, were replaced by the modern manufactured desks. This was not an entire advantage, as the old pine desks could be far more artistically carved than the varnished cherry! So much for art; let us see what nature had done. She had furnished a beautiful woods of over a hundred acres, in the midst of which to place this work of man. And, for a wonder, man accepted the offer. Local history states that the selection of a site finally narrowed down to this and a bleak, prairie hill-top, and that the one majority vote was obtained by a promise of a certain road. It may be of interest to add that the promise was not kept.

The playground was practically unlimited, though in later years, a fence in keeping with the building was added. The trees were those common to northeastern Iowa—white oak, bur oak, black oak, red oak, elm, ash, poplar, maple, and basswood. Of the nut trees, there were walnut, butternut, hickory, bitternut, and hazel. Of wild fruits, we had black cherries, red cherries, plums, crab apples, haws, gooseberries, blackberries, raspberries, strawberries, and May apples. A great variety of wild flowers abounded in woods and prairie. The smaller wild animals were well represented, from an occasional wolf to the busy chipmunk. Birds and squirrels were continually tempting us away from our three R's. Insect life was abundant. A creek a short distance from the grounds, improved by hand engineering, furnished a swimming pond in summer, and skating in winter.

It would be difficult to find a more suitable place for the study of geology. The geological character of the country may be indicated by mentioning the Pictured Rocks at McGregor, the Ice Cave at Decorah; and nearer a white sand cave, large enough to drive in and turn around with a team and lumber wagon, and a spring out of which flows a small river.

There were probably fifteen or eighteen different teachers in as many terms that I attended school where nature had done so much, and yet I haven't a single recollection of any one of them ever calling attention to the many interesting things about us. Occasionally some daring boy or kind-hearted girl would present the teacher with a bunch of flowers. They would be received with a not very cordial "thank you," and laid carefully out of the way so as not to interfere with the routine work. No decorations were ever attempted.

Who would dare estimate the lost opportunities in this one school? How many latent zoologists, ornithologists, entomologists, botanists, horticulturists, and geologists are still latent? It is not to be expected that the poorly paid, over-worked country school teacher should be a natural scientist, and yet every one can point out something of interest in insect or plant life; can show that an insect is something to be studied, rather than shunned or trampled upon.

The schoolhouse is still there. Some of the trees are gone. The encroachments of man have driven some of the animals and birds away, but enough remain. The same creeks are keeping up their ceaseless flow. Eager children still go in and out. Is anything being done to interest them in the wonderful world about them, to prepare them for happier,

fuller lives, and take away much of the drudgery that will otherwise come?

This is no overdrawn case or the single exception; there are thousands like it. But the plainest schoolhouse on the barest hillside is surrounded by a world of interesting life.

THE CANCER WORM.

BY PROF. E. A. POPENOE.

THE fruit-growers in the vicinity of Manhattan have this year an experience with an orchard pest comparatively new to the locality in the shape of the canker worm, now very abundant in some orchards and present at least in small numbers in most of the orchards examined. The pest is most abundant in the older orchards, usually those where spraying has been practiced little or not at all. Beside the apple tree, the insect is attacking also the plum, the cherry, the pear, the apricot, as well as certain shade trees. At this writing, the larger larvæ are about two-thirds grown, and measure about three-fourths of an inch in length. Most of them are yet much smaller. They rapidly increase in size, with proportionately greater gastronomic ability, and even where their inroads are yet unnoticed, they will, as they grow, soon show their presence by the denuded branches, unless something be done to check them.

The treatment now in season is the spraying of the trees attacked with arsenical poisons, either paris green or london purple, in the proportion of a quarter of a pound to the barrel of water, the scalding of the leaves by the poison being mainly prevented by the addition of a little quicklime to the mixture. In using the lime it should be first slackened and dissolved in sufficient water, and strained into the poison mixture through a bit of gunny-sack to remove the unslacked particles and other material that would otherwise impede the working of the spraying nozzle. A pint of flour thoroughly mixed with the water may be added in the same way to increase the adhesion of the liquid to the foliage. When the spray strikes the tree, the worms will follow their habit of dropping, hanging by a silken thread as they go; but the poison on the leaves will finally destroy most of them. If one application be found insufficient, a second or even a third should be made, as it is important to complete the destruction of the worms, if possible, this year, that they be not left to finish their transformations and to appear as moths next spring to renew the destructive attack.

As is the case with a very few other species of the measuring worms, the adult males and females of this are so different in form that their specific relationship would not be suspected. The male is a slender-bodied, broad-winged little moth, of wavering flight, of general color dull gray, the wings transversely marked with bands of lighter and darker of the same general color; while the female is quite without wings, with the body broad, almost ovate, of the same dull gray as the male, and with a dorsal stripe of blackish color. I have noticed the delicate male moths flying in twilight, a few here and there, in the cool evenings of late fall and especially in very early spring for several years past, more abundantly the present spring than ever before. At the same time, the females may be detected clinging to the trunks of the trees which they ascend, by walking, for the purpose of laying their hundred or more eggs upon the bark of trunk or branches. The eggs are by preference laid in irregular masses under a sheltering scale of loose bark or a similar protection. They hatch as the buds burst, and the span-worm larva begins its destructive work. When full grown, the larvæ make their way to the ground, which they enter, transforming to pupæ, in which state most of them pass the winter, there being but a single brood during the year.

From their habits as above outlined, several suggestions for their repression may be drawn. In the first place, the well-tested methods of preventing the ascent of the tree by the female demand attention. A broad, close-fitting paper band placed upon the trunk and kept smeared with some sticky substance, printers' ink, tar, and the like, captures the climbing moths until the band is bridged across by the bodies of those entrapped, when the application should be renewed. The moths then lay eggs below the band which afterward must serve to prevent the ascent of the newly hatched worms.

In the State Horticultural Society, a few years ago, Mr. Dow of Cherokee County described a plan which

he reported as highly successful. It is, in brief, banding the tree trunks with split cotton batting, the fluffy surface out, and the upper edge of the band loose and rolled outward to overhang, the lower edge held closely by ties to the trunk of the tree. In attempting to crawl over the cotton band, the moths are entangled or trapped by the loose threads of cotton, and are thus unable to reach the trunk above.

The canker worms that are allowed to reach full size, leave the tree, and reaching the soil, pupate therein, remaining in that condition, then, from the middle or last of May until spring of the next year. It is accepted as a general fact that stirring the soil occupied by lepidopterous pupæ endangers the life of the insect. The breaking up of the earthen cell in which the pupa lies brings the soil more closely about it, and encourages the growth of the fungus parasites that attack so many insects when brought into unfavorable conditions of moisture and atmosphere. Hence the recommendation of some writers that the ground under and near infested trees should be plowed once or twice while the insect is lying therein.

Finally, this insect is eating the apple leaves at the season when the up-to-date orchardist is busy with the spraying engine to prevent the loss of his fruit through the attacks of the codlin moth larva, or apple worm. The arsenical dose upon the leaves may be counted as so much wasted where we consider only the apple worm, but when we remember that now the canker worm, the apple leaf-crumper, the tent caterpillar, and other spring leaf-eaters are beginning their work, and are destroyed by the application intended for the other, we shall wonder why so efficient a protection is not more widely availed of.

SELECTING SEED.

BY PROF. G. H. FAILVER.

THE importance of using seed that has been selected with reference to some special quality or character of the crop to be produced seems to be realized only in a dim and hazy way; much stress is laid on the germinating quality of the seed, and in a general way seeds of sorts that have a good reputation are selected. But few persons seem to fully realize the extent of individual variation in plants, and that these variations may be perpetuated and intensified. Of course those who give their attention to producing new varieties and sorts of plants do fully understand their power in these directions, but those who use the work of these pioneers do not have a working knowledge or faith in it.

It is not the rule for the gardener or the farmer to grow his own seed except in the case of such bulky seeds as the grains. One cannot rest secure thinking that the growers of seeds which are sold in such large quantities in packages all over the country take special pains to produce or rather to select seeds that will bring the best of crops. No doubt the growers of these seeds wish this result, and in so far as general treatment on a large scale will bring it about, strive to produce good seed. But often the seed is grown by contract, a whole field being devoted to one plant, and the whole harvested with little chance to select. Thus the average of the whole crop is represented in the seed. Those who have given attention to the quality of individual plants in a field know that there are great differences in the several individuals, and that the seeds of such plants tend to reproduce these special qualities. In the practice of harvesting the whole crop for seed, any general improvement, by culture or otherwise, is maintained, but of course no special qualities of individual plants will be intensified, for seed of plants possessing these qualities in all degrees, from the lowest to the highest, will be mixed together. It is only by selecting from the whole crop the comparatively few plants possessing the desired quality in the greatest degree that the best effect in this line can be produced. And this applies to general field crops as well as to garden and truck crops. It has been a practice with farmers in selecting seed corn to save or to reject ears with flinty grains according as this quality is desired in the crop. Could they know differences in the composition of the grain, it seems probable that corn could be made a better grain; for it is well known that it is too highly heat- and fat-producing for best feeding effects. The chemist may be able to do this work for the farmer, and it is within the possibilities that the corn of the future will be more nearly like oats as a feed.

While the farmer may not be able to make selection involving these hidden properties, there are many characters that come within his observation by which selections may be made. In a field of ripening corn, the early ripening ears may be distinguished from those that ripen late. In a field of Kaffir corn or sorghum, stalks with hard and flinty hulls or rinds

may be compared with those that are softer; and differences in the flinty character of the seed itself may be observed. And so with other characters. Now, while it may not be known that all differences observed will be propagated (for they may be connected with some accident of the plant rather than inherent character), yet it is known that many of these observed differences can be perpetuated. Neither does it seem probable that most farmers and gardeners possess the peculiar skill and inclination to make much success with these selections, for they must be carried on in the same line for several years in order to fix any acquired trait. But in the whole body of the gardeners and farmers of the State are many having the necessary habit of observation and the skill and patience in execution to enable them to improve the plants they grow, and to furnish improved seed to their neighbors, thus raising the general average of the whole.

While this is not the time of year when most selections must be made, being seed time, it may be most thoroughly impressed upon those who are to do the work.

Changing Conditions in Agriculture.

There is ever a change in conditions going on in matters agricultural that makes it necessary for the up-to-the-times farmer to be on the alert, and he must adapt himself to these conditions in order that he may realize the most from his particular branch of the business. Just now we are undergoing a change extraordinary in the matters of wheat growing and horse breeding, and just what the final results will be no one can tell. The conditions are such now that in the matter of wheat growing the average crop must be produced most abundantly and at the smallest cost to make it profitable. The average crop produced with the average amount of labor expended, can not any longer bring any profit to the producer, but, on the other hand, is put on the market at a loss. It costs, according to the figures of careful, calculating farmers, in the neighborhood of ten dollars per acre to grow a crop of wheat, and a yield of twenty bushels per acre must be harvested to bring the farmer out even. It is only when a larger yield than this can be obtained, or the cost of production can be lessened, that there is any chance to make a profit. But the average farmer, who produces about twelve bushels per acre, is paying very dearly for his bread, with wheat at present prices. If he should just take time to do a little figuring, he would see that his wheat costs eighty-three cents a bushel the way he gets it, when if he bought it on the present market there would be a saving of thirty-three cents on every bushel grown. There are some localities where the average cost of production can be considerably reduced, and some soils can be made to yield more than twenty bushels per acre, and where these conditions exist we would advise the farmer to continue in the business, and even increase his crop. All the others we would advise to go into something else—adapt themselves to other conditions that promise better returns.

As to horse breeding, there never will be a market for so large a number of animals as have been sold in the past, at such remuneration as was received. The business will probably adjust itself in time so there will be a fair profit on a limited production of these animals, but there is no chance now for unlimited capital to be put into an extensive business with any show of profitable returns. Farmers must quit breeding, except to produce just enough to meet their own demands, until a change of present conditions shows a margin for profit. Electricity and bicycles have come to stay, and have shut out the horse, and even now the motor road wagon is retiring the horse in some of our cities, and in all probability thousands of them will be relieved in the near future. So the outlook for the horse breeder is a very discouraging one, with little prospects for the better ahead.

There are also changing conditions in the matter of maintaining soil fertility, which call for new ideas and new departures in management. It is no longer necessary for farmers to grow grain to feed stock to make manure to grow more grain, etc. but fertility is to be had at a stated price on the market, which price is cheaper than it can be produced on the farm, and the new farmer must get into line with this change of conditions if he would keep abreast with the times. It's no use trudging along in the old beaten paths any longer, trusting to fate to bring back the good old times that existed under the old condition of things, but get out and adjust yourself to these changed conditions if you would farm profitably. What each one should do is not in our province to advise. You know your conditions best, and ought to be best able to figure out your own plans along some line or specialty that suits you best and promises the best returns.—*Agricultural Epitomist*.

Extraordinary musical attractions will be provided for the next session of the Ottawa Chautauqua Assembly, June 15-26. There will be fine soloists, the Harmony Club of thirty voices—the prize singers of Kansas—and best of all, part of the Kansas City Symphony Orchestra which has scored such great success this season. It is the finest orchestra in the west. The great chorus under a new director, Prof. L. S. Leason of New York City, will rival the days of the lamented Sherwin.

FARM NOTES FROM VARIOUS SOURCES.

I am not one of those who have claimed that the farmer is a slave, that his condition is much worse than it used to be, for this is not true; but I do claim that he has not had a fair share in the prosperity of this great nation.—J. M. Rice.

The world moves. Old methods have passed away. We do not stop now to count the grains we plant. We do not plant in the moon any more. We are not satisfied with a full pail of milk, if it contains but little butter. Two blades of grass must now grow where but one formerly grew. Improved machinery and advanced methods now hold sway over the agricultural world.—*Farmer's Guide*.

A man subscribes for a trade paper, says *Newspaperdom*, because he expects to find in it information and suggestions of value in his business. He reads it from end to end, advertisements and all, and jots down on his memorandum many things for everyday use. For a man to succeed now-a-days, he must be wide-awake, and the wide-awake men are the ones who subscribe to their trade journals.

Good roads are a necessity, and as the movement has been started to have them, let all become interested in the matter and start the wheel a rolling to bring about something that will benefit each locality. If your neighbor is luke warm, just take time to converse with him, and you will not require much time to convince him of the folly of his way of thinking. Try it. It will do no harm.—*Farmer's Magazine*.

The farmer who is contemplating removal to town in order to rest in his old age had better study both sides of the question. Many who have been accustomed to busy days, and the best of every thing that the land affords, will be disappointed long before the first year in town is past. The question is now not to "keep the boys at home," but "What shall we do to keep the old man from moving to town?"—*Live Stock Indicator*.

The studious farmer is learning that the act of plowing is not merely a mechanical operation, while the great bulk of plowmen the world over are without a single idea upon this point. Soils vary and seasons vary. Although many have more or less defined ideas as to the necessity for variations in treatment of these soils, in time and manner of plowing, and working for the best results, do even the most intelligent practice the best they know?—*Farmer's Guide*.

Commenting on the views of Mr. David Dickson, of Georgia, as to the utility of study and observation, the *Arkansas Farmer* forcibly says: "It is not given to one man to know everything; hence the ideas, inventions, and experience of others often come in handy to piece out what we do not know ourselves. No one ever rose to distinction in any profession, calling, or walk in life who was too lazy, too ignorant, or too proud to learn from others. Even farmers can learn something from others."

No other business man has so many loose ends to keep up as the farmer. There are a thousand leaks, all little ones, to be sure, but one such, we are told, is enough to sink a ship, and many a farmer's ship lies waterlogged and on its beam ends, prevented from sinking by its own inherent tendency to float and escape total ruin, which would overtake any other business than this. But the man suffers by his neglects, although he may not be wholly destroyed by them. It is to the great credit of the farm that it will withstand all the drawbacks, and yet carry its load without sinking. And it is, on the other hand, a very great inducement to the thoughtful, careful farmer, for the liberal reward of it, to think of every little thing, and see that every end is kept tight up, and well in hand, and that there are no little leaks through which the income dribbles away anywhere around him.—*Colman's Rural World*.

The bottom subject of importance with agriculture just now is, says *Farm and Fireside*, to secure an equality in our school privileges. The curriculum of our common schools fits our children for anything but farming. It sends them home with no knowledge of soils, or plants, or animals, or intelligent culture, or manures, or irrigation, or geology. The New York State Grange has been active during the last year to work a change. It sent out the following question to every county in the State: "Are the principles of agriculture taught in our public schools?" The uniform answer was, "No." The result has been the issuance of a brief handbook on milk and dairy matters. A horticultural handbook will follow, and another on domestic economy. The book issued is practical, simple, direct, but bright. It can be easily read and easily understood. This is the right track, and the consequences will be far-reaching.—*Colman's Rural World*.

The cleaning up of the corners of "worm" fences, and along the lines of straight ones, would add a little to the productive capacity of the farm, as well as give the premises a much better appearance, and tend to check the encroachment of bushes and weeds upon the cultivated fields. This subject should not be considered from the financial standpoint only. Something is due to appearances. A man who has a farm should keep it in such a condition that he can take both pleasure and pride in looking at it himself, and in showing it to others. Besides, both the farmer and his family will be affected by the conditions of their surroundings. Farmers who have kept their roadsides and fences clean will need no encouragement to continue the good work. And we trust that those of our readers who have been negligent in this respect will promptly make a change which will benefit themselves and their families, and which will also exert a beneficent influence upon the communities in which they live.—*Practical Farmer*.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1895-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Mr. Richard Cline, a teacher from Chapman, visits College today.

Phoebe McCormick of Zeandale, a former Ionian, attends the Annual.

E. B. Patten enjoys a visit from his schoolmate Joe Guild of Silver Lake.

President Fairchild drives a new horse,—a mettle-some bay of about 1100 pounds.

Prof. A. F. Heitkamp of St. Mary's College was a visitor on Thursday afternoon.

Roy Kellogg, Fourth-year, takes his place in classes after an absence of four weeks.

Mrs. Fairchild spends a few weeks in Kansas City with her daughter, Mrs. Kirshner.

Mrs. Tracy of Alma, Kan., attends the Annual with her sister Miss Maud Barnes.

Prof. Georgeson contributes some notes on alfalfa in a recent number of the *Prairie Farmer*.

Misses Elsie Stump and Hattie Forsythe of Dwight are visiting Miss Lottie Forsythe, First-year.

A letter from ex-Regent Joshua Wheeler notes his improvement, and expresses hope of his ultimate recovery.

Mr. Lynn L. Hilliker, assistant ticket agent for the Santa Fe Railway at Lawrence, visited College on Wednesday.

Miss Isabel Dumbreck, of Junction City, accompanied by Jessie Whitford of Manhattan, visited Chapel this afternoon.

Abundant rains, with the bright sunshine of which Kansas can always boast, puts vegetation forward almost beyond precedent.

T. M. Robertson, Fourth-year, attended the Sons of Veterans Encampment at Beloit on Wednesday and Thursday, as delegate from the local encampment.

E. W. Holler, student in third-year classes, enjoyed a visit the past week from his uncles, W. S. and H. W. Faris, and a friend, E. R. Shaw, of Ellsworth County.

Prof. Brown moves this week into the Woodman property, near Prof. Walters', the Ritchie house on Houston Street, in which he has lived for two years, having been sold.

One redeeming feature of Monday holiday proves agreeable alike to authorities and students of the College, in that it

Brings old familiar faces
To fill the truants' places.

Pres. Fairchild met with the State Board of Irrigation at Topeka, on Friday, to arrange details for the experiments at Oakley, and also for a series of experiments with pumps and windmills at the College if manufacturers can be interested.

Misses Caroline Strack, Vida Shaw, Nettie Cook, and Shirley Woodson, accompanied by Prof. J. N. Engle, all teachers in the Junction City schools, spent the latter part of yesterday at the College, and found enough of interest to pay them for their visit.

From a graduate: "If a young man could see while he is going to college what he sees afterward, he would manage in some way to make better use of his time and opportunities. When I was in College, I did not waste much time, with all the work that I had to do, but I did conduct myself differently than I would if I could have seen things as I do now. I suppose it is the way of the world, for the young to be partially blind to the advantages about them. I find many students who would work far better if it were not for this blindness."

The Second Division of the Junior Class occupied the public hour in Chapel Saturday afternoon as follows: "Something for Nothing," S. J. Adams; "The Social Settlement," R. W. Bishoff; "The Mission of the Skeptic," W. B. Chase; "Two Views," F. E. Cheadle; "Egoism vs. Altruism," R. W. Clothier; "Conversation," F. V. Dial; "A Eulogy," S. Dolby; "Which Won?" P. Fox; "The Great Physician," N. M. Green; "Time Lends Opportunity," E. L. Hougham. The program was opened with a selection by the Cadet Band, and a vocal trio, consisting of Misses Pfuetze, Newell, and Lyman, sang "Down in the Dewy Dell."

Mr. L. R. Elliott has resurrected an old circular issued by Booth & Manning in 1867, which he sends the INDUSTRIALIST. The advertisement of the College as it appeared in those days may be of interest: "The Agricultural College located here is a magnificent stone structure 50 by 72 feet, three stories high, finished complete and furnished in a manner corresponding with similar institutions, containing a library of about 3000 volumes, and a chemical and philosophical apparatus worth some \$3000. The College is in a flourishing condition, employing four able

professors, with an average attendance of about 100 students, two-thirds of whom are taking a regular college course. This institution being still in its infancy, no class has yet completed its course of study; but the senior class will graduate at next commencement, about the 1st of July, 1867."

Mrs. Kedzie lectured before the Y. P. S. C. E. of the Junction City Presbyterian Church, Friday evening, April 17th, on "From Geneva to Rotterdam," finding many things of interest to tell her audience concerning beautiful Switzerland and quaint Holland. The lecture was illustrated by eighty stereopticon views shown by Prof. Hood.

GRADUATES AND FORMER STUDENTS.

W. E. Smith, '93, was seen about College today.

Lillie Dial, '95, is visiting her Alma Mater friends.

Eusebia Mudge, '93, is in town for the Ionian exhibition.

R. A. McIlvaine, '92, attends the State Normal for the spring term.

W. H. Hulburd, student in 1894-5, died recently at his home in Stranger Township, Leavenworth Co.

Herbert French, First-year in 1894-5, slipped away from his duties long enough to attend the Annual.

Although she has but another week of school at Vinton, Nora Newell, '93, comes in for the Ionian "annual."

Ora Yennawine, '95, in company with her sister Hattie, Third-year in 1894-5, visits Chapel this afternoon.

Mary Paddleford, Second-year last term, Minnie Lyon, First-year in 1894-5, and T. E. Lyon, '93, are visitors at the Annual.

R. R. Rees, '85, was married, in San Francisco, April 18th, to Miss Hattie Merrick, a student in 1884 from Clay Center. Mr. Rees practices law in Minneapolis, Kan.

W. H. Phipps, '95, with Misses Annie Lawson and Maggie Mayhew, White City teachers, took advantage of Saturday school and the Ionian Annual to visit College.

Jessie Stearns-Bronson, Third-year in 1891-2, died at her home, near Oakwood, Linn County, April 15th, of blood poisoning, surviving her infant child only a few hours.

Albert Dickens, '93, after closing a successful term of school, is spending his vacation working in the Horticultural Department. He takes the place vacated by I. Jones, '94.

C. A. and J. J. Johnson, '95, have been spending a few days about College. The latter took the civil service examination for the railway mail service at Salina on Monday, while the former is helping on the home farm near Success.

Mrs. Lily Deen-Musgrave, Third-year in 1887-8, visits with her husband at the home of her sister, Mrs. Lantz. She has just returned from a visit of two months in Pennsylvania, and after a short stay here goes to her home in Salida, Colo.

Elizabeth Edwards, '92, and Florence Beverly, Second-year in 1889-90, will spend the summer months in England. Miss Edwards will visit with her parents in Abergale, Wales, whom she has not seen for many years, while Miss Beverly renews acquaintance with relatives in the "tight little isle."

J. E. Payne, who graduated from Kansas Agricultural College in 1887, and received the post-graduate degree of M. Sc. in 1896, has been appointed to a position in the Colorado Experiment Station. Mr. Payne is a thorough, able, conscientious, and tireless investigator, and will give a good account of himself in the work to which he goes.—*Kansas Farmer*.

The statement in the dispatches lately that Wm. Smith, the twenty-four year old mayor of Lecompton, was the youngest man elected to that office in the United States is untrue. M. C. Doran, a former College student, was recently elected mayor of Edgerton, at the age of twenty-two years. His opponent in the race was his own father.—*Manhattan Mercury*.

Notes from the Entomological and Zoological Department.

The zoological specimens have all been transferred to the shelves and cases of the lower floor of the new museum. Geological specimens will be found on the second floor. Though the arrangement is but a preliminary one, it is in approximately scientific order, and will be of great benefit to students of either study.

A handsome new label case of cherry and oak, purchased from the Mechanical Department, is added to the furniture of the office. It is large enough to hold 434 three-dram screw-top bottles, which contain the date and other labels used in the insect collections.

A small aquarium, to be used in the study of the development of snails, toads, frogs, and aquatic insects, will be placed in the laboratory in a short time.

Several students pursue special studies in the Department this term: Jesse Norton, in entomology; F. V. Dial, anatomical ornithology; and E. A. Powell, systematic ornithology.

A number of the eggs of the leopard frog, and of the common toad, together with some tadpoles collected by Mr. Pape, are interesting objects for study.

The department is indebted to Messrs. Thompson and Breese for donations of fine specimens of the jack-snipe, yellow-shank, spoon-bill duck, lesser scaup duck, and blue-winged teal.

Assistant Marlatt, in a search for cottonwood borers, recently procured from a single tree the larvae of thirty-seven borers, nineteen being found in the roots and at the base of the trunk, and eighteen in the upper portion.

A number of living specimens will be found in the laboratory, among the rest a collared lizard, a snapping turtle, and several snakes. The alligator still thrives, but the armadillo, presented by Capt. Bolton, died not long since, and is undergoing preparation for a place among the mounted mammals in the museum.

Among recent donations to the museum will be found two long-eared owls, from Prof. Popenoe, a large wood rat, a ground-squirrel, and a silver mole, from Jesse Norton, and a number of mice from various College Departments.

Fourteen gopher skins and an equal number of skulls have been prepared by Mr. Pape, and will be exchanged later for other specimens for the museum.

An interesting and valuable collection of spiders, numbering about seventy species, has been made by Jesse Norton, who makes a special study of the Arachnida.

Numerous inquiries in regard to the spring canker worm, together with requests for machinery for spraying, show this pest to be present in large numbers, and seriously damaging the orchards in the vicinity of Manhattan.

BERTHA KIMBALL.

COLLEGE ORGANIZATIONS.

Student Editors.—Gertrude Havens, E. G. Gibson, F. E. Uhl.

Alpha Beta Society.—President, M. G. Spalding; Vice-President, Clare Wilson; Recording Secretary, Ed. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce; Board of Directors, J. M. Westgate, Guy Hulett, Maria Gilkerson, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

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Ionian Society.—President, Minnie Pincomb; Vice-President, Winifred Houghton; Recording Secretary, Sue Long; Corresponding Secretary, May Bowen; Treasurer, Flora Allingham; Critic, Maggie Carleton; Marshal, Bessie Lock.

April 18th.

The Ionian Society was called to order by President Minnie Pincomb. After singing by the Society, Emma Finley led in devotion. Roll call was followed by the election and initiation of Miss Kneeland. Rose Lee opened the program with news items of interest to all. Misses Lyman and Rhodes rendered a guitar duet. "The Love Scene and Tragedy" by Misses Hall and Symns was well received. The editor, Miss Freeman, being absent, the Oracle was read by Miss Carleton. It contained a number of interesting, well-written articles. Miss Maelzer then favored the Society with a piano solo. Stella Stewart closed the program with an excellent essay entitled "A Good Student." After a short business session, the Society adjourned. M. H. B.

April 18th.

In response to the summons of Vice-President G. C. Hall, a full house of Hamiltons came to order. Devotion, S. J. Adams. After reading of the minutes, the officers-elect were inaugurated. Outgoing Vice-President, G. C. Hall, responded to the call for a valedictory in a few well-chosen remarks, stating his appreciation of the work the Society had given him, and the benefits he derived therefrom. President C. E. Pincomb's reply to the numerous invitations for an inaugural, was very appropriate. He thanked the Society for the honor it bestowed upon him, and expressed his desire, with the help of the members, to make the usually dry spring term's work interesting and profitable. His words were appreciated by all, and showed that we had the right man in the right place. W. S. Turley was elected a member. The program was opened with a declamation by A. D. Coe, entitled "The Destiny of America." It conjectured that when England would be sleeping in the pages of history, America would still be an Athens. W. G. Tulloss read an interesting essay, "On leaving College," describing the delights of a fortnight's camping-out expedition. T. M. Gleason's essay on "Fourth of July" was well written and entertaining. It was more real than imaginary. An oration, given by J. C. Wolcott on "The Semitic Race and Their Inferiority," contained a brief outline of what little history we have of the black men, showing that they have been servants from the earliest times. Whether their inferiority is due to a curse of God or lack of inventiveness and opportunity, is a question. That they are inferior, was plainly shown. They seem incapable of advancement by present methods. The problem of raising this down-trodden race is open to all inventive minds. "The Reporter's Story" was the title of W. R. Correll's select reading. It was a touching account of railroad dangers and woman's constancy, shown through a heroic deed in return for desertion and being forsaken. C. E. Copeland gave a discussion on the "Hessian fly." It was instructive, containing a history of the pest in this country, damage it does, and means of exterminating it. An excellent number of the Recorder was read by its editor, L. G. Hepworth. Motto: "A rolling stone gathers no moss." The editorial showed careful preparation. Some of the articles were: "How to get most out of Society," "The Unpardonable Sin," "A Local Hit," "American Humor," and "A Dream." G. H. Dial, as music committee, introduced H. Rogler, who favored the Society with a violin

April 18th.

solo, and was heartily encored. J. J. Smith read an essay on "Farming: Does it Pay?" It was well read and the contents were appreciated by all who have lived on the farm. A few minutes were now taken up in profitable criticism. The name of Joe Reyburn was proposed for membership. Under unfinished business, several committees reported, showing that business was not lagging. A few trials were disposed of, after which the Society adjourned to meet in two weeks.

V. M.

April 18th.

The Websters were called to order promptly at 7:30. E. H. Webster led in prayer. The program was opened by debate on the question, "Resolved, that the moderate drinker does more harm to a community than the confirmed drunkard." The affirmative was upheld by J. A. Conover and T. W. Allison, who argued that the confirmed drunkard is a person relied upon by nobody, while the moderate drinker has followers. The moderate drinker, while sober, will make friends that later he will lead in the wrong direction. The number of moderate drinkers is much greater than the number of toppers, and each leads his associates on the downward path. The negative was presented by J. B. Dorman and J. H. Bower. "Is a part greater than the whole?" A man never gets so low but that he has some influence. The drunkard brings ruin on his family. He robs society of the money spent for liquor. The moderate drinker is an evil simply because he is leading to worse ends. The toper drinks in public, and has much influence. The Society decided in favor of the affirmative. W. N. Ireland introduced R. J. Peck, who favored the Society with a piano solo. He responded to an encore. "Found Dead in the Street" was the title of Mr. Martinson's declamation. J. G. Haney presented a spicy edition of the Reporter; motto: "Be true to your colors." E. B. Patten showed his literary ability in an original story,—an extract from a book that he intends to write. He will undoubtedly win fame in this line. Mr. Windschitell, another Webster musician, was introduced by W. T. Pope. The program was ended by a simultaneous discussion, "Boys vs. Girls," by A. K. Barnes and J. M. Harvey, a very unique and interesting affair. Unfinished and new business occupied the remainder of the evening.

J. E. T.

April 18th.

At the usual hour, President Spalding called the Alpha Beta Society to order. The program was opened by a piano solo by Miss Mary Finley. After prayer by R. W. Clothier, and installation of officers, Grace Secret read that touching poem, "An order for a Picture." P. H. Rader then delivered a humorous declamation entitled "The Fall Creek View of an Earthquake." A violin quartette, consisting of Marian Gilkerson, Grace Secret, Josephine Wilder, and R. W. Clothier, rendered a pleasing selection. An open discussion on "The temperance question in Kansas," took the place of the usual debate. This discussion was participated in by many, and proved to be both interesting and instructive. The arguments were mainly against resubmission. Two classes favor it, the one composed of whisky men and the other of men who are against whisky. The latter work for resubmission not because they really want it, but because they fear to oppose it, lest by so doing they hurt their political interests. The prohibitory law is often violated, but that does not prove it to be a failure. Other laws are broken, too, but we do not think of calling them failures. We do not ask that they be resubmitted. Why, then, should we ask that for this question? What we want is not resubmission, but enforced law. The Gleaner, read by Miss Mary Painter, contained a number of good articles. W. O. Lyon spoke a few words of encouragement. After recess, Mr. Clothier, accompanied by Marian Gilkerson on the piano, rendered a violin solo which was heartily encored. Miss Philbrook then presented her views on "The New Woman" and Miss Wilson spoke of "The Old Man." After the usual business session, the Society adjourned.

G. D.

Profiting by the Institutes.

The farmers' institutes are over for the season. What have we learned at them? "Very much in every way," says one. "But little of anything," says another. These verdicts are very different, and yet both may be true. But why this difference? It is to be looked for rather in a difference in the men than in the quality of the institute; for these different verdicts are sometimes pronounced by men who attend the same institute. Wherein consists the difference? It does not arise as much, perhaps, from a difference in intellectual vigor and intellectual culture as from a difference in the spirit in which they go to the institutes. When one man goes without prejudice and full of expectancy, he is pretty certain to enjoy a feast of good things. When another man goes blinded with prejudice and only eager to criticise adversely, he comes back unfeasted. He has been busy gathering husks, even though kernels full of meat may have covered the ground all around him.

But the question now uppermost in the mind of the writer is, what use will the farmers make of the knowledge they have gained? Will the methods of advanced practice, brought out and discussed at the institute meetings, be embodied in the work of the farmers? We believe they will, in many instances.

Some, it may be, will go on in the old way. If they do, it will be to their loss. Think of a man with the scythe trying to compete with a field mower of the most improved pattern in a forty-acre field; imagine a person nowadays trying on foot to compete with a bicycle in fleetness of locomotion; fancy a lad trying to dig potatoes with a fork in competition with a digger of the most improved pattern, and drawn by four horses! In all these things a comparison is present-

ed to us of the old and new ways, respectively. The old way was excellent in its day, but everything has its time, and to this the old way is no exception.—Farming.

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character, by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week day except Saturday, and no student may be absent without excuse. Unexcused absences are taken into account in calculating grades. Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy 15 minutes before the meeting of classes each morning, and unnecessary absence from them is noted. On Sunday no services are held in the chapel, but students are urged to attend the different churches of the city.

Every Friday, at 1:30 P. M., the whole body of students gather for a lecture from some member of the Faculty, or for the rhetorical exercises of the Third- and Fourth-year Classes. Once a week all the classes meet, in their class rooms, for exercises in elocution and correct expression.

There are four prosperous literary societies which meet weekly in rooms set apart for their use. The *Alpha Beta*, open to both sexes, and the *Ionian*, for ladies, meet Friday afternoon. The *Webster* and the *Hamilton* admit to membership gentlemen only, and meet on Saturday evening.

The Scientific Club, composed of members of the Faculty and students, meets in the Chemical Laboratory on the second and fourth Friday evenings of each month.

Branches of the College Y. M. C. A. and Y. W. C. A. hold weekly meetings at the College, and a union meeting on the first Friday evening of each month.

Once in each term the College Hall is opened for a social gathering of Faculty and students, in which music, literary exercises, and friendly greetings find place.

Public lectures by prominent men of the State are provided from time to time, as opportunity offers. All are free.

Labor and Earnings.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour's daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their ability and means.

All labor at the College is under the direction of the superintendents of the department, and offers opportunities for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with the services rendered, from 8 to 10 cents an hour. The superintendents strive to adjust their work to the necessities of students and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses.

The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

A Good Education Pays.

1. In dollars and cents. All testimony of statistics agrees in showing that educated laborers of all ranks have better work and better wages than the uneducated.

2. In influence and position. Careful estimates make it certain that the chances of promotion to places of trust and power among men are almost two hundred times as great to an educated man as to the uneducated man.

3. In usefulness. The bulk of good work in the world—discovery, invention, government, philanthropy, and religion—is brought about by those who learn to think by study.

4. In enjoyment. Our pleasures grow out of what we are ourselves more than from surroundings. A well-trained man sees, hears, and handles a great deal more of the world than an untrained one. All things do him more good, not so much because he owns them as because he understands them. He always has good things to think about.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, up on the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

Sorghum Seed for Sale.

The Chemical Department has for sale improved sorghum seed of the several varieties which have proved to be the best in the past years' experiments. An account of these sorts of sorghum will be found in the bulletins of the Station. The principal kinds are Early Amber, Folger's Early, Medium Orange, Kansas Orange, Collier (undendebule), Colman (a cross of Orange and Amber), Denton (another cross).

We have limited quantities of specially selected seed of most of the sorts. Address, G. H. FAILVER, Manhattan, Kansas.

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Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

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Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popeno, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc., may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary

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A PLEA FOR CULTURE.

BY PROF. FRANCIS H. WHITE.

"IS LIFE worth living?" The answer will depend, it seems to me, upon what we mean by "life." Human beings may be divided into three classes: those who merely exist; those who live, but not fully; and those who truly live.

He merely lives who is unresponsive to art, music, poetry; who feels little emotion and no enthusiasm; who considers thinking a bore, and avoids responsibility like a plague. This state may be either natural or acquired—natural, if the lack of opportunity or ability has left the intellect and sensibilities untrained and undeveloped; acquired, if it is the result of artificial and conventional training and surroundings, the result, perhaps, of a false idea as to what constitutes true culture.

Advertisers do not claim to be philanthropists, and yet one, not long since, did a real service to his fellow-men as he besought them in almost every paper and periodical, "Don't be a clam." Perhaps some may think his exhortation was unnecessary, as no one with a spinal column surmounted by a brain case would willingly resemble the placid, flaccid denizen of the deep.

Have you ever watched people in an art gallery moving calmly, or perhaps I should say clamly, from picture to picture, never staying long enough before any one to obtain real benefit—spending far more time over the catalogue than the objects it names? Their sole purpose—sole, not soul, if you please—seemed to be to "do" the gallery; to "see," as they call it, the various art objects. How absurd! What possibility was there of really seeing them at a glance? An impression would no doubt be made upon the retina, but almost none upon the soul.

Perhaps there has come under your observation the original of that famous picture *L'Angelus*. The copies never do it justice. If you have seen it, you may remember your first impulse was to turn away with the feeling that it had been over-rated. But you stopped and studied the picture. It is a twilight scene. In the foreground there are two plain, peasant figures, a man and a woman, standing with bowed and uncovered heads, evidently ceasing for a few moments their laborious toil. In the distance, out of the gathering darkness, looms a church spire. As you gaze, you seem to be standing in the field with those French peasants, and on your ear there fall the solemn tones of the evening bell, the call to prayers. The spirit of reverence seizes you,—it evidently has full possession of the peasants,—your head sinks lower and lower, and your whole soul holds communion with the Most High.

If by nature or training we are enabled to appreciate the thought embodied in the works of the great artists, composers, and writers; to grasp, as it were, something of their life, and appropriate it to ourselves, we are fortunate and have, indeed, an essential requisite of culture.

So also if we are able to enjoy and receive benefit from natural scenery. There are many for whom the glorious panorama which nature unrolls before our eyes has neither meaning nor beauty. How much of life they miss!

A party of young men walked to the top of Pike's Peak one summer's night. The way was steep and in part rough. What hardships they endured! And for what purpose? In order to feel the spiritual uplift, the elevation of thought which often comes when one is occupying a commanding position? Not at all. From my observation of them, I should say it was simply for the purpose of boasting that they had accomplished an unusual feat.

Yet the scene was well worth their attention. The sun was just rising over the level plains, partly veiled by a light mist which gradually cleared away, revealing great stretches of country extending on and on until the earth melted into the sky. At one side and beyond were the Rockies, their tips just touched with the first rays. The scene must be left to the imagination; words fail to bring it adequately before us.

During all this time the young men were present, at least in body; where their souls were I do not know. I say their bodies, at least, were there. To be more definite, some of the young men were asleep on the floor of the large room in the government building, and to make their offense worse, if possible, snoring away as if their lives depended on it. All were told the sun was rising, but few accepted the invitation to watch it. The few that did, turned upon

the scene their dull, fish-like eyes and then looked indifferently away or returned to sleep. What a spectacle! The Monarch of Day rising majestically above the horizon to the slow music of a steady snore.

There we were, over fourteen thousand feet above sea level,—presumably that many feet above clams,—and in full view of one of the most glorious views, I venture to say, that human eyes ever looked upon, and yet, from the interest these young men manifested, you might have supposed them gazing at the picture on a box of "Rising Sun stove polish." Such people cannot be said to truly live; they simply exist.

It was said there was another class who lived, but not fully. Their faculties are but partly developed, or there is a very unequal development. In some directions, perhaps, their activity is so great it seems feverish; in another, so little energy is expended they resemble those clam-like people of whom we have spoken. To this class of "half-alives" most of us belong.

It seems strange at first thought, and almost inexplicable, that people who have capacity for a wide range of enjoyment should confine themselves to one particular form, and often the very lowest range of that. It is as if one had a first rate piano, but should persist in playing only with one finger and on only two or three of the keys.

No doubt there are two things that stand in the way of most people in thus perfecting themselves. One is, they fail to realize vividly what they are missing, fail to see there is anything beyond what they have already accomplished worth making an effort to obtain. Another, they have not the necessary opportunities for improvement and the securing of a more harmonious and complete development. Only when this is obtained can they be said to truly live; and then, indeed, life is worth living.

The third class is the one that truly lives—lives fully, lives harmoniously. In order to illustrate culture, writers have pictured the dull diamond in the rough, passing through a process of grinding, polishing, and cutting until a sparkling, many-faced gem is produced, able to emit flashes of red, green, orange, as light is thrown upon it. But, although this brilliant stone does suggest the cultured intellect, enabling the possessor to reflect truth and beauty from any quarter, it fails, clearly fails, to bring before us a very important characteristic of true culture, namely, its self-sufficiency. No outside stimulus is necessary in order that its good qualities may be revealed. It is not merely a reflector, but shines from its own inward light. Culture is more than mere surface polish.

Nor does the diamond suggest that constant struggle after perfection, after the realization of high ideals, inseparable from the life of one truly cultured. Perhaps a better analogy than the diamond has been found in plant life—a flower germinating in silence and darkness, but given proper sustenance and sunshine, coming at last to maturity and perfection.

But still how far are we from all that is involved in the culture of a human soul. Illustrations from either the mineral or vegetable kingdom cannot from their very nature be adequate. We must suggest not only the power of reflecting truth, not only the capacity and necessity for growth, but the power to place oneself in new situations, to obtain new effects; and besides these we must at least indicate how infinitely more is involved in the spiritual life than in the vegetable—the far-reaching sympathies, the subtle shades of thought and feeling, the possible height and depth and breadth of the human mind—all these, and more. No analogy can give much help.

Better turn at once to the human being, and let the soul tell its own story. But what astonishing differences do we find! Men may be seen in every stage of culture. Holmes' witty definition of an Indian as "a bundle of instincts on legs flourishing a tomahawk" is not so far from the truth. From such undeveloped people to a person like Lowell, Curtis, or Gladstone is a long, long distance. Yet the mind of our race in its development has passed through many of the intermediate stages.

The mind of the individual, too, if it would be truly cultured, must pass through the successive stages, must pass beyond the stage where the average person stops, and make the special effort necessary to secure the more perfect development desired. No doubt some people are especially fortunate in the mental endowment they receive by heredity, enabling them to appreciate and appropriate more quickly than others whatever will aid in the development of

the higher life. Still, all have within them dormant powers, all have the possibility of a higher life, all can struggle and attain—perfection? No, but something nearer to their ideal than they have at present reached.

SALADS AND MEN AND SALADS.

BY JEANNETTA ZIMMERMAN, '91.

MEN have been objects of comparison ever since figures of speech have strengthened and beautified our language and literature.

In our everyday reading, we see men compared to monkeys, lions, tigers, and many other animals; and occasionally we come across a comparison between men and tacks, razors, whetstones, and so forth. So, in comparing men with salads, we are working right along in the same line, perhaps stretching the line in some cases, and complimenting men incidentally. At first thought we may be unable to see any similarity between delicate salads and the world of struggling humanity. But when we come to study salads, we find them of all kinds, divided into various classes, just as we find mankind of all species and families; and we say of salads, as we do of men, there are no two alike in the wide universe.

We have bad men, just as in the salad kingdom we have bad salads; and so we have excellent men who do a wonderfully good work, and perfect salads that help, cheer, and invigorate. A further analysis of salads shows that, like men, they are complex, consisting of many separate elements which, if properly combined, work together to make an important whole, not exactly perfect, perhaps; for salads, like men, are victims of circumstances, yet most all of them can be made of some value and use.

Here is a salad before us. It contains many elements we like, and a few we do not like, yet the combination is one that is pleasing and agreeable at all times. And so we often find persons with ways and habits many of which we admire, and a few of which we dislike. If the distasteful are of little importance, we say such a person is admirable! If the predominant flavor of the salad be not to our taste, we condemn it. Just so, if a person's bad habits outnumber his good ones, we shun him. One bad habit may cause a person to be ostracised, more or less; and a strong, disagreeable flavor may cause an otherwise favored salad to be almost entirely banished from our menus. Due credit being given to the fact that no two persons are identical, we can see why most persons have companions, and why all salads are not liked by every one.

We have our favorites; that is, there is something in our make-up that attracts some people and repels others. Our companions cannot be made to order. We cannot express to another completely what we desire our friends to be. You might say, "I like a bright and kind-hearted youth; go to city or country, if you please, and choose such a one for my companion." The youth comes; he is bright and kind-hearted, yet you say you dislike him. There is a toss to his head, a simper to his mouth, that disgust you; his entire manner is one you dislike. Yet you cannot convey clearly to another the objections which you sustain. Your vocabulary is lacking in the expressive words, and by virtue of this inner inexpressive self has grown the thought that one is no better than the company he seeks. There must be congeniality or there can be no friendship. So if our associates, to our knowledge, have bad habits, so must we necessarily, or we would not or could not be friends. Would honest men enjoy the related experiences of dishonest men? Can Christian people be entertained by words and deeds that thrust at religious principles?

It is well to be careful in choosing companions, but this will be much easier to do if we live honest, upright lives, so that only those with good intentions will find ease and comfort in our company. True, persons can deceive us, but that can be only for a short while. Time and circumstances come to our aid, and show our true selves to the deceiving persons, and they will generally be willing to show signs first that they, too, were somewhat mistaken in their judgment of our character. That is, we soon find that their ideas of life do not agree with ours; and similarly we many times find salads which at first were pleasant, but after while we find they are not the right ones for us, consequently we discontinue their use. Then we try to order the kind of salad desirable, and find our flow of language as inadequate as when we undertook to formulate the requisites of a congenial companion.

For instance, we might order a salad with a French dressing, to be made of chicken and celery, all artistically arranged so as to be pleasant and

tempting; and on comes the salad, we look at it and are pleased, and eagerly we test its merits. Yes, chicken, celery, dressing, all are there, but there is also biting pepper and strong onion, and we push the dish from us feeling weak that we are not able to express our exact taste and choice in the matter of food. There are no standards which convey definite amounts, consequently there are no words to represent different degrees of the sum total. To be sure, we have such terms as salty, very salty, extremely salty, and just awfully salty, but these vary with each and every individual, and are not uniform degrees of a recognized salt solution.

There is another comparison of salads to men, an important item to both. Dressing bears the same relation to salads as it does to men, helps as many, perhaps, and hinders doubtless as many more. A true salad should be made of substantial elements, which, when taken alone, would be wholesome and desirable. We add the perfectly seasoned dressing to bring out these elements and give them a delicate and finished flavor. If the dressing be weak and unsavory, then it takes from the taste of the salad in not bringing out the characteristic flavors by intensifying them, and thereby it does not do its duty fully; for it was to help, not hinder. If the dressing be of such a flavor as to predominate at the expense of the other ingredients, then it has overreached its office, which was merely to assist, not make.

The dressing of men, like that of salads, should be chosen to emphasize their perfections and to hide their imperfections, and such time and money as is spent in accomplishing this is put to a noble purpose; for who does not rest more comfortably when he is aware that his dress is pleasing or at least not displeasing to look upon.

We grant that clothes alone do not make the man, but we will all have to acknowledge that they help mightily after he is already made. The office of dress is not to attract attention because of its brilliancy or to be remembered for its slovenliness, but to make a perfect background so as to bring out the wearer in the most pleasing and agreeable manner. That fine clothes are all that is necessary to make a gentleman or lady, that clothes can hide silliness and sin, that rich clothes indicate a rich pocket-book, are ideas that have done much to lead the young away from the right line and wreck them in the seas of vanity and adversity. Better far make the mistake of dressing below our ability and means than otherwise, for the former may indicate self-sacrifice, benevolence, and studiousness; while the latter can signify only an idle brain, self-devotion, and roguishness. So far as one chooses his wearing apparel, just so far can he be rightly judged by it. For is not it the result of his thoughts, a product of his reasoning, a construction to his taste, designed by him, and made according to his dictation? A man can show his nationality by what he eats as well as by what he wears.

How much patriotism has an American who wears French costumes, eats French forms of cooked food, and uses every French phrase that comes across the Atlantic?

Every country shows its individuality by its distinct type of dress and its own peculiar diet suited to the climate and habits of its people. A boy in a German home eats German bread, wears German clothes, and when he is grown he is a German and fights for Germany.

A boy in America eats Scotch oats and French salads, and wears a Prince Albert coat and a Derby hat, and when he is grown he is an American, we suppose, because he could not very well be anything else. He is not taught that as he is an American by birth, he should hence be an American in dress and habits. Our forefathers had enough love for Americanism to fight to free themselves from their mother country, and have we not enough stamina to stand by that liberty and keep the yoke of foreign "faddism" from suppressing our individualism, and consequently our patriotism?

Why do the salads that American people send to their table to be eaten by Americans have to be introduced on the menu cards by some French name? If the salad is made of American foodstuff and made by an American and eaten by an American, why call it by a French name? Does a French name so tickle an American's palate that the success of a salad depends merely on its having a long French name? If salads have not been naturalized as yet, they should have no right in our homes. Give unto France what is French, and unto America what is American.

Social Life on the Farm.

I have often heard the complaint among my friends that country life is lonely. This truly is the case where the family stays at home, always excepting the times when necessary supplies must be purchased in town. But where visiting is indulged in, and where church-going and the other available rounds of sociability are taken advantage of there is really much of a social nature to interest the man or woman who dwells in the country. I want to tell the dissatisfied ones that there is a large class in the city that complain even more bitterly of loneliness. They have an excuse, or find one, to seclude themselves from their opportunities and the privileges of society around them. They do not visit or go to church or anywhere, and yet they wonder why they are so lonely; while others are popular, happy, and ready to receive an idea or give one. It is a difference of energy and education rather more than of environment. It is a duty parents owe to themselves and to their children to direct some form of social life. It is one of the needs of a new country, and the women as usual must supply the method of making life more elevated and happier.

I conclude that the society in the country might be made a little more definite and desirable if every family would at least once a year invite their friends and neighbors to spend an afternoon or evening with them. Serve coffee and cake, and have a real good social time. There is a great deal of work on a farm, and too many fall into the habit of working always with no relaxation for social life. It is a great mistake, and life is made all the nobler and sweeter by some variety and some food for its social needs. We always find people longing for society where there is none. If there is time for regrets there, is time to put into practice some good neighborly entertainments.

By the way, simplicity in entertainments is quite the fashion at present. A cup of tea and a wafer form the usual refreshments to an afternoon guest. It does not matter so much what one does or says or eats. But let the recluse come out and mingle with friends and neighbors, and enjoy the sunshine of sociability. I hope there may be some helpful letters on this subject in this department; for discussion of a subject is what causes it to take root in a community.—*Wallace's Farmer*.

Beautifying Our Homes.

Plants were created for beautifying our homes as well as for food. Our homes should be pleasant and attractive, which can be accomplished at a very small cost by growing flowers. Being poor is no excuse for not having them, as the seeds can be procured cheaply. What a lot of hidden beauty is contained in a five or ten cent package of seed.

Why don't all farmers have lawns? There is land enough, which might greatly beautify their residences if made into lawns of green grass, with a few shrubs or flowers, instead of being so cluttered with chips, wood, carriages, etc., as to be a disgrace. Some farmers waste time enough to keep it neat and tidy.

Flowers have another advantage; they bring us closer to our Creator, for the more we learn of His creations and their habits the more we shall love him.

Where flowers are abundant there is an air of fragrance around. Cut flowers placed on the table at meals give it a fresh and attractive appearance. Their beauty is also most pleasing to the sick. We can arrange to have blossoms all through summer and autumn, as well as much entertainment by watching the flower-loving insects as they fly to and fro among the plants gathering honey. The more time devoted to the garden the more interesting the work becomes. If kept free from weeds, an admirer of flowers will find much pleasure and satisfaction in floriculture, and will wonder how he got along without flowers before. Please give your opinion.—*Correspondent, Mirror and Farmer*.

Bad Roads.

Bad roads cause the farmers of the country a great deal of loss, whether they be bad roads of the kind that are every now and then knee deep in mud, or whether they are the kind that put up rates out of all reason and add terminal charges which have no justice in them. The injuries of both kinds can be largely restrained by proper legislation. A good law for railroad control is a help against the injuries imposed by the latter. One species of legislative effort designed to minimize the losses resulting from the former is found in the laws for the encouragement of broad tires, which are now coming to have supporters in a number of States. Wagons built with tires wide enough to keep from cutting into the road, not only save and improve the road-bed, but, as recent experiments at the Missouri Agricultural College show, draw much easier than narrow tires. We are not aware that any State has yet adopted laws either requiring wide tires or encouraging them by a discriminating tax in their favor, but a number of cities have done so by ordinance, and they find that it answers. The city of Rochester, N. Y., has adopted an ordinance compelling the use of tires four inches wide on all wagons designed to carry a ton or more, and many of these wagons often go several miles into the country. It is said that there is already a marked improvement on these country roads which are only occasionally traveled by the wide-tired wagons, the tires acting as rollers to firm the road bed. We believe that a similar ordinance has been passed by the city council of Des Moines, Iowa, although it has not yet gone into effect. A bill for an act involving the same wide-tire principle is also pending in the Iowa legislature this winter.—*Live Stock Indicator*.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.

1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Olathe, Kan.

GENERAL LOCAL NOTES.

Mrs. Kedzie lectures at the M. E. Church Monday evening.

Miss Pearce spent Sunday with her parents near Stockdale.

Mrs. John Winne contributes to the *Republic* a well-written report of the Ionian exhibition.

Miss Jessie Plowman of Chicago is visiting her friend, Etta Ridenour of the Senior Class.

Prof. Olin is one of the judges in a local oratorical prize contest at St. Mary's Catholic College, May 13th.

The College Cadets will take part in the Decoration Day exercises under the management of Lew Gove Post, G. A. R.

Major Francis Moore, Inspector General of the Army, is expected Thursday afternoon to make the annual inspection of the College Battalion.

Mr. Lee Demron, of McFarland, visited with R. W. Clothier, Third-year, yesterday. He was returning from Lindsborg, where he attended college.

Miss Anna Cooper of Keats, a former student of the Michigan Agricultural College, visited College this week in company of Miss Fannie Erwin of Manhattan.

The Alumni Association will, through the courtesy of Mr. Will Ulrich, '77, hold their triennial reunion and banquet in Ulrich's Hall, there being no room at the College large enough to accommodate the body and their guests.

President Murlin of Baker University visited College Tuesday morning and addressed to the students in chapel words of good cheer. He preached on Monday evening at the meeting of the District Stewards at the Methodist Episcopal Church.

Prof. Will acted as one of the judges in the Kansas-Nebraska University debate at Lincoln, on Friday evening. The question was, "Resolved, that the initiative and referendum should be introduced into our government after the manner of Switzerland." Nebraska, on the negative, won.

Pres. Fairchild, in company with Mrs. Hogue, another member of the State Board of Education, visited McPherson College, Bethany College at Lindsborg, the Salina Wesleyan University, and the Salina Normal University this week, and will present to the State Board next week a report of general condition and work as provided by the law of 1893.

More visitors than usual attended the exercises at chapel today. Among those present were Mesdames Brock, Coulson, Carleton, Carpenter, Davis, Finley, Havens, McClurg, Short, Samuel, Thackrey, and J. S. C. Thompson; Misses Alice Allingham, Brown, Mabel and Jennie Selby, Ethel McClurg, Hattie Yenawine, and Birdie Johnson. Dr. and Mrs. Hatch and Mr. and Mrs. Ridenour were also present.

The Eighth Division of the Fourth-year Class appeared in chapel this afternoon as follows: "An Age of Elevators," E. B. Coulson; "Light," Inez L. Palmer; "Romanism: Our Country's Peril," W. O. Peterson; "Moral Freedom," Elva L. Palmer; "The Molly Maguires," Con M. Buck; "Life," Susan E. Johnson; "Influence of Music," A. L. Peter; "A More Perfect Union," Gertrude E. Stump; "Take No Footstep Backward," C. F. Doane; "To My Classmates," A. E. Ridenour. Miss Mary Finley varied the program with a piano solo, "Old Folks at Home." This being the last public appearance of the Seniors, the program closed with a solo by C. W. Lyman, and a chorus of Fourth-years, who bid farewell to chapel orations to the familiar tune of "We Won't Play in Your Yard," for we're through rhetorically, "The Class of '96."

GRADUATES AND FORMER STUDENTS.

J. C. Christensen, '94, visits College for a few days, his school being out.

J. M. Wheeler, student of last year, is continuing his studies in McPherson College.

H. N. Whitford, '90, is at home after a year of teaching in the Council Grove Schools.

A. W. Jones, for a short time student here, is Professor of Natural Science in the Wesleyan University at Salina.

F. J. Rogers, '85, has been chosen by the resident Alumni to deliver the address before the graduates on Tuesday evening, June 9th.

C. D. Adams, '95, celebrated the closing of his school at Olive Branch, Jefferson County, by a dinner for pupils in addition to the usual exercises.

College Hill school, W. W. Hutto [91] teacher, closed last Monday night with an entertainment given by the pupils, which was creditable to all concerned. The proceeds were for the benefit of the school, and amounted to something like eight dol-

lars. A play, "The Picnic Party," was the principal event of the evening.—*Nationalist*.

Sherman Coe, Second-year in 1892-3, was married on Thursday, to Miss Julia Ashbrook of Manhattan. Mr. and Mrs. Coe are in the East on their wedding journey.

E. J. Abell, '95, will teach in the Clay County Institute, and W. H. Phipps, of the same Class, will teach in the Geary and Clark County Institutes.—*Republic*.

K. C. Davis, '91, has been re-elected for another year—the fifth—as Principal of the Austin (Minn.) High School. He regrets being unable to attend the Alumni banquet.

J. R. Harrison, '87, still serves Uncle Sam on the mail route from Salina to Pueblo, Missouri Pacific Railway, but expects larger returns from his interests in some western wheat fields, all of which are promising.

The State Normal *Monthly* says: "Mr. George W. Smith [95] has been elected Arbor Day orator. These Agricultural College bred fellows make good eloquence in which to plant a tree or a vine; the Normal tried one last year in the person of Mr. Harmer."

S. S. Cobb, '88, remembers College friends by invitations to the annual meeting of the Indian Territory Pharmaceutical Association at Wagoner, May 19th and 20th. He is Treasurer of the Association, and H. C. Cobb of Muskogee, Third-year in 1891-2, is President.

H. G. Pope, '94, took second place in the spring term oratorical contest at the State University. In reporting the contest, the *Lawrence World* says: "H. G. Pope closed the program with 'The Tendency to Federalization in our Government.' It was a pointing out of how the Federal government is being magnified and made more powerful at the expense of the States, of the dangers this nation is tending towards, and of a solution of such. Mr. Pope was the most eloquent and forceful speaker on the list, and a pin could have been heard to drop, so attentive and thoroughly interested was the audience."

The Ionian Annual.

At a little before eight o'clock, Saturday evening, April 25th, the curtain rose, revealing a tasteful arrangement of white bunting draped tent-like, of palms, flowers, and statuary.

The program was opened by the College Orchestra with an overture, "Thunder and Lightning." The lightning as it played on the stage, and the thunder as it rolled from the orchestra, were no mean rivals of the orchestra of heaven without. President Fairchild led in devotion. After a few words of welcome by the President, Minnie Pincomb, came a piano trio, "March of the Videlles," rendered by Gertrude Rhodes, Maud Barnes, and Tacy Stokes.

The address of the evening was delivered by Miriam Swingle on "Woman and Progress." Woman's influence upon the early and careful advance of the United States was spoken of as exemplifying her influence in general upon a nation's growth. As to the future field of woman's work, it seemed safe to predict conservative influence toward governmental affairs, and radical as to moral improvement; but her best results were to come from a more liberal spirit. Her home is not to be deserted. She is not to enter man's domain. Her future pursuits are not to turn mainly toward the outside world, but instead she is to be better informed, her life is to broaden, she is to aim ever at a higher standard of excellence, and is yet to take as her most sacred duty the guidance of her children's lives.

Following the address was a vocal octette, "Legends."

An apostrophe, entitled "Spirit of the Age," was given by Clara Newell. She said that our surroundings are seldom appreciated by us. It is only after they are passed that we know their true value. So it is with our own times. The live spirit of our century is progress. We see it in art, literature, politics, and religion. In all this progress our own country has led the world, and her influence has been felt in every nation. Hail! then, Progress, spirit of the nineteenth century. Thou hast buried slavery, and ushered in liberty. Patriots have died for thine onward march. May thy gentle hand guide us in the future as in the past, through all the dangers surrounding us to usefulness and prosperity. May thy white dove of peace brood over all the world 'till every heart is filled with celestial love.

"Till the war drum throbs no longer, and the battle flags are furled,

In the Parliament of man, the Federation of the world."

Winifred Houghton, in the picturesque costume of the sixteenth century, gave a reading of Mrs. Brown's "Rhyme of Duchess May."

The Society paper, the *Oracle*, was edited by Louise Spohr. The paper was of high tone throughout, and the many truly witty sayings served as a pretty garnish to the more substantial articles.

The "Pirates' March" was rendered by the Ionian Mandolin Club.

Ary Johnson, in "A Prophecy," told of the advance being made by the Ionian Society, and its final achievement of all that is noblest and best in society life.

The "Rainbow Drill" was a pretty shifting picture of graceful forms and motions, intensified by all the colors of the rainbow.

Gertrude Stump in a meditation, "Eventide," gave the first experience of ourselves in finding beauty and peace in all resting nature. Then, as loved by painters, giving a vivid description of Angelus by Millet. The inspiration that poets gain from it is seen in Bryant's beautiful picture of sunset; while

Wordsworth opens to us the mysterious beauty of fading sunset on the sea. The novelist depends much on the evening to quiet the restless soul, and Scott at this time has given us real pictures of Scottish scenery,—the highlands and moorlands, the crags and cliffs along the lochs. The meditation closed with the benediction of Eventide resting upon the whole earth, causing peace to reign.

The vocal trio, "Row Us Swiftly," by Emilie Pfuetze, Clara Newell, and Gertrude Lyman, was followed by four living pictures, representing Fate, Apprehension, Faith, and Triumph, which closed the program of one of the most successful annuals ever given. The little things that sometimes detract from the tone of the annuals were conspicuous by their absence, the whole program being distinctively womanly.

G. J. H.

COLLEGE ORGANIZATIONS.

Student Editors.—Gertrude Havens, E. G. Gibson, F. E. Uhl.

Alpha Beta Society.—President, M. G. Spalding; Vice-President, Clara Wilson; Recording Secretary, Ed. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce; Board of Directors, J. M. Westgate, Guy Hulett, Marian Gilkerson, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, C. D. McCauley; Vice-President, R. W. Bishoff; Recording Secretary, W. B. Chase; Corresponding Secretary, J. E. Trembley; Treasurer, W. T. Pope; Critic, S. Dolby; Marshal, W. H. Young; Board of Directors, J. B. Dorman, R. J. Peck, L. A. Nelson, J. M. Harvey, F. Gregory.

Hamilton Society.—President, C. E. Pincomb; Vice-President, W. L. Hall; Recording Secretary, L. G. Hepworth; Corresponding Secretary, V. Maeizer; Treasurer, A. D. Coe; Critic, E. C. Joss; Marshal, A. J. Pottorf; Board of Directors, C. S. Evans, H. M. Thomas, E. O. Farrar, F. E. Cheadle, B. H. Shultz.

Ionian Society.—President, Minnie Pincomb; Vice-President, Winifred Houghton; Recording Secretary, Sue Long; Corresponding Secretary, May Bowen; Treasurer, Flora Allingham; Critic, Maggie Carleton; Marshal, Bessie Lock.

April 25th.

Despite the fact that the Ionian Annual was to be held in the evening, Society Hall was well filled Saturday afternoon when President Spalding called the Alpha Betas to order. The first number on the program was a piano solo by Miss Reed, after which Mr. Hulett lead in prayer. Miss Secret and Mr. Shellenbaum then entertained the Society with music on the banjo and mandolin. Mr. Shull, in a well-written oration entitled "The Coming Campaign," briefly discussed a few important political questions. Miss Ridenour read an interesting essay on "Stanley and His Work." The debate on the question "Public or Private Schools, Which?" was argued on the side of public schools by Mr. Westgate, Myrtle Stryker, and Amy Manchester. They spoke of the necessity of thorough organization in the schools, and said that public schools are better organized than private ones can possibly be. Again, in the former, the rich and poor have equal advantages, while the private schools are open only to those who are able to pay for instruction. The results are the poor must go uneducated, and class distinctions are encouraged. On the side of private schools, Misses Shoffe, Needham, and Macaulay maintained that private schools are well organized; better work may be done here than in public schools because of the smaller number of pupils. The teachers are persons of high social standing and are chosen more to suit the temperament of the pupils than are public school teachers. The pupils are kept from mingling with objectionable classmates. The question was decided in favor of the public school. Next on the program was vocal music by Misses Elva Palmer and Tannehill and Messrs. Folsom and Fryhofer, Adelaide Wilder accompanying on the piano. The Gleaner was read by Lucy Cottrell. Vocalduet by Josephine and Adelaide Wilder. Prof. Will then favored the society with an interesting talk on the subject "Universities." Mr. Phipps responded to an invitation to speak to the Society. After recess, Misses Secret and Cotton sang a pleasing selection, Miss Secret playing the accompaniment on the banjo. The remainder of the session was devoted to business. G. D.

The Weather for April, 1896.

BY C. M. BREESE, OBSERVER.

The warmest, windiest, and, with one exception (1863), the wettest April on our record. The excellently distributed rainfall, with the warm weather, advanced the season very materially. By the 11th, tame grasses, wheat, and oats were growing rapidly. Peaches and plums were in full bloom. A week from that time apple trees were in full bloom, gardens doing nicely, grass coming on, and prospects for everything the very best. A few farmers had begun to plant corn. In another week wheat was knee high and jointing; stock being turned in the pastures, and all prospects still excellent excepting for apples, many orchards being subjected to the ravages of the canker worm, and some of them being entirely denuded of their foliage. The end of the month finds everything still favorable with this one exception, the worms still continuing their depredations.

Temperature.—The mean temperature was 61.52°, which is 7.96° above the normal. The highest temperature was 95°, on the 15th; the lowest, 25°, on the 2nd—a monthly range of 70°. The greatest daily range was 49°, on the 3rd; the least 10°, on the 5th, 11th, and 12th. The mean daily range was 26°. The warmest day was the 15th, the mean temperature being 78°. The coldest day was the 1st, the mean temperature being 36°. The mean temperature at 7 A. M. was 53.83°; at 2 P. M., 72.5°; at 9 P. M. 59.87°. The mean of the maximum thermometer was 74.97°; of the minimum, 48.77°; the mean of these two being 61.87°.

Barometer.—The mean pressure of the month was 28.702 inches, which is normal. The maximum was 29.248 inches, at 7 A. M., on the 2nd; the minimum, 28.181 inches, at 7 A. M., on the 13th; monthly range,

1.067 inches. The mean at 7 A. M. was 28.736 inches; at 2 P. M., 28.682 inches; at 9 P. M., 28.688 inches.

Cloudiness.—The per cent of cloudiness was 44.44. This is 1.14 per cent above normal. The per cent at 7 A. M. was 43.55; at 2 P. M., 38.33; at 9 P. M., 30. Two days were entirely cloudy; four were five-sixths cloudy; six were two-thirds cloudy; one was one-half cloudy; nine were one-third cloudy; three were one-sixth cloudy; five were clear.

Precipitation.—The total precipitation was 5.49 inches. This is 2.77 inches above the normal. It fell in twelve rains. There were thunder storms on the 5th, 7th, 8th, 11th, 16th, 24th, and 28th. The table following shows monthly rainfall for 1896, the normal, and departure from normal.

	Normal.	1896.	Departure from Normal.
January	.77	.31	-.46
February	1.06	.56	-.50
March	1.30	.87	-.43
April	2.72	5.49	2.77
Totals	5.85	7.23	1.38

Wind.—The wind was from the southeast twenty-nine times; south, twenty-six times; southwest, ten times; east, nine times; north, six times; northwest, four times; west, four times, and northeast, two times. The total run of the wind for the month was 12607 miles, which is 2807 miles above the mean. This gives a mean daily velocity of 420.23 miles, and a mean hourly velocity of 17.51 miles. The highest daily velocity was 771 miles, on the tenth; the lowest, 180 miles, on the 5th. The highest hourly velocity was 44 miles, from 1 to 2 P. M. on the 10th. The following tables give comparisons with preceding Aprils:—

April.	Number of Rains.	Per cent of Cloudiness.	Prevailing Wind.	Rain in inches.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
					1858...	8	4.64	.....	51.66	87
1859...	7	2.54	34	NW	49.43	90	22	.....	.....	.....
1860...	2	.12	28	NW	57.99	90	30	.....	.....	.....
1861...	1	2.00	34	S&SW	54.18	93	31	.....	.....	.....
1862...	6	3.63	48	N	49.68	78	31	.....	.....	.....
1863...	5	9.12	33	NW	59.43	93	39	.....	.....	.....
1864...	5	1.68	60	NW	47.52	79	27	.....	.....	.....
1865...	9	2.93	.....	.....	51.06	76	23	.....	.....	.....
1866...	3	2.44	40	N	49.72	75	31	.....	.....	.....
1867...	7	1.96	56	N	48.25	83	27	.....	.....	.....
1868...	6	2.20	42	SW	48.10	77	22	28.72	29.10	28.15
1869...	5	.50	45	SE	52.63	85	19	28.74	29.60	28.40
1870...	7	3.00	43	SW	57.67	91	32	.....	.....	.....
1872...	7	2.06	52	SW	56.42	89	30	.....	.....	.....
1873...	9	1.67	57	NW	47.31	91	23	.....	.....	.....
1874...	3	1.40	67	NE	46.76	84	24	28.75	29.14	28.33
1875...	7	1.60	44	NW	48.45	82	19	28.67	29.04	28.32
1876...	5	7.52	43	SW	53.58	84	26	28.72	29.16	28.30
1877...	6	4.08	48	NE	53.08	84	20	28.65	29.10	28.19
1878...	5	2.02	51	NW	57.77	85	27	28.50	28.95	27.98
1879...	8	3.21	52	NW	55.73	80	18	28.56	29.92	28.19
1880...	2	1.08	32	SW	56.79	89	30	28.53	29.02	27.88
1881...	6	1.56	57	NW	52.09	82	13	28.58	28.90	28.11
1882...	7	3.47	57	NW	56.14	86	32	28.59	28.99	28.14
1883...	7	2.36	54	NW	55.57	93	31	28.50	29.02	27.89
1884...	12	3.23	40	NE	49.47	85	27	28.55	28.91	27.95
1885...	5	4.03	44	NW	53.72	81	28	28.52	28.85	28.17
1886...	5	5.26	47	NE	54.51	88	18	28.83	29.26	28.02
1887...	7	2.85	33	SW	58.14	93	23	28.78	29.29	27.95
1888...	6	1.38	27	E	56.72	93	28	19	29.53	28.64
1889...	3	1.74	37	.....	55.27	92	26	29.03	29.41	28.47
1890...	5	1.74	40	E	56.25	93	26	28.91	29.29	28.38
1891...	6	1.86	35	NW	56.24	91	21	28.87	29.32	28.44
1892...	10	2.91	39	SE	51.69	85	26	28.79	29.27	27.95
1893...	7	1.28	34	NW	54.34	98	26	28.72	29.09	28.04
1894...	8	1.33	23	S&E	57.63	92	25	28.78	29.27	28.41
1895...	5	1.46	40	SE	59.33	94	31	28.74	29.17	28.05
1896...	12	5.49	44	SE	61.52	95	25	28.70	29.25	28.18
Sums	234	103.35	1560	.....	2035	.....	717.83	.....	.....	.....
Means	6	2.72	43.3	NW	53.56	.....	28.71	.....	.....	.....

WIND RECORD.

April.	Total Miles.	Mean Daily.	Maximum Daily.	Mean Hourly.	Maximum Daily.	Mean Hourly.
1889	7506	250.21	587	77	10.42	37
1890	9577	319.23	710	103	13.30	51
1891	7748	258.28	456	51	10.76	35
1892	11196	373.20	963	134	15.55	49
1893	10172	339.06	652	92	14.12	45
1894	11233	374.43	689	102	15.60	45
1895	8363	278.77	702	112	11.62	40
1896	12607	420.23	771	180	17.51	44
Sums	78402	2613.41	.....	108.88	.....	.....
Means	9800	326.68	.....	13.61	.....	.....

The lecture platform of the Ottawa Chautauqua Assembly June 15 to 26 will in part consist of Senator Voorhees, of Indiana; Judge Wm. B. Green of Brooklyn, the great story-teller; Miss Olof Krarer, of Greenland, who gives a wonderful description of life in the frozen north; Gen. John B. Gordon, of Georgia, the most eloquent southern orator; Bishop J. H. Vincent; Prof. Louis Favour, of Chicago, the noted electrician; Dr. C. A. Swensson, of Lindsborg; Dr. F. W. Gunsaulus, of Chicago; Prof. W. D. McClintock, in a course of his famous literary lectures; Hon. P. M. Arthur, of Cleveland, Grand Chief of R. R. Engineers.

The eighteenth session of the Ottawa Chautauqua Assembly promises to be the most successful of any of its annual gatherings. Forest Park has never been so beautiful as this spring, and will afford an ideal resting place for the cultured multitude who will attend the coming session—June 15th to 26th.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The Chanute High School will graduate 24 pupils this spring.

There was but one case of tardiness in the Junction City school in February, out of an enrollment of 998.

Senator Baker has secured a place in the Naval Training School on board the United States steamer Richmond for Clarence Betts of Sterling.

The class in German at Baker University will render a play about the middle of May. The selected gem is Schiller's "Der Neffe als Onkel."

The semi-annual meeting of the County Superintendent's Section of the State Teachers' Association will be held at Newton, May 12th, 13th, and 14th.

The sum of \$50, for the relief of the Armenian sufferers, was contributed by a girl student at the Normal School, Emporia, who modestly refuses to permit her name to be known.

Prof. H. J. Barber, formerly of Topeka, but now teaching the Parsons High School, was badly injured recently by an explosion which occurred during an experiment with acetylene gas.

Ralph M. Brooks, of Garnett, Kansas, has been appointed a cadet at the Naval Academy. Charles G. Williamis, Fulton Mo., and Elmer E. Wiseman, of Leon, Kan., have been appointed railway mail clerks.

The *Mid-Continent* complains of the small membership in Washburn College, Topeka, of the Young Men's Christian Association, and lack of vigor of the meetings. It says that the membership is only 25, which is less than one in five of the male students.

The educational work at Ottawa Chautauqua Assembly, June 15 to 26, will be vastly better than ever. Fresh, brilliant subjects, lecturers, and teachers. Get detailed program and cost of attending from Assembly Herald. It may be had for a postal request to Sandford Topping, Sec., Ottawa, Kas.

The Kansas State Social Science Federation of Women's Literary Clubs will meet in Topeka, May 6th, 7th, and 8th, by invitation of

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EXPERIMENTS IN FORESTRY.

BY PROF. S. C. MASON.

THE Division of Forestry of the United States Department of Agriculture, being desirous of making some plantations in the Western States, the College leased to them a year ago about ten acres of land on the old college farm. This includes what was formerly the old college orchard, now grubbed out, an open lot of about three acres of gravelly clay soil lying east of it, and three acres of the old forestry plantation in ailanthus, catalpa, and soft maple.

Plans for the planting of a portion of this land have been prepared and forwarded here by the Assistant Chief of the Division, Prof. C. A. Keffer, who made a tour of this section of the country last fall in the interest of this work.

The trees for this spring's planting to the number of 17,000 were received here during the month of April. The varieties are approximately as follows: 1000 bur oak, 500 ironwood, 1000 Pennsylvania cherry, 500 chestnuts, 2000 Norway spruce, 3000 Douglas spruce, 3000 Banksiana pine, 3000 Scotch pine, and 3000 Ponderosa pine. The work of setting these has been done wholly by the students, under the direction of the Horticultural Department.

The portion of ground in old trees—that is, they were set about twenty-five years ago—is quite uneven in growth, many maples having died during the severe drought of the past three years. In the most of this, however, there is still cover enough to make quite effective shade. This part has been under-planted with bur oak, Scotch pine, Ponderosa pine, Douglas spruce, and Norway spruce.

One very interesting plat is a half acre which, on account of the gravelly character of the soil, has never been broken, and was in the original prairie grass with a liberal growth of sumac brush. On this, there have been planted 900 Scotch pine and 300 Ponderosa pine, set four feet apart each way, and arranged so as to bring the Ponderosa pine eight by sixteen feet in alternating rows. This attempt to secure a footing for forest trees on such a worthless bit of land will be one to watch with much interest.

The planting of the gravelly plowed land, over an acre, was made first with Banksiana pine, four feet apart, and then rows half way between, running east and west, were introduced, making a rather complex mixture of ironwood, bur oak, cherry, Norway spruce, Douglas spruce, Ponderosa and Scotch pine. The scheme is such that all the slower growing, shade-loving trees will be surrounded with more rapid growing, light-seeking varieties.

PRESENT STATUS OF CEREAL CULTURE.

BY M. A. CARLETON, '87.

THE three future wheat regions of the world which will have most to do with regulating supply are the great plains of the United States, the Russian "chernozem," or black earth, and the pampas of Argentine. It is also true that the best quality of grain is grown in these regions, but particularly in the eastern portion of the "chernozem," near the Ural mountains.

The very low prices of wheat, together with the continued rapid increase of production, necessitates some great changes if wheat growing is to remain profitable. In this country, the tendency toward mixed farming is helping to solve the problem, as well as the replacement of corn by wheat for stock feed. The quality of our wheat can be much more improved by rigid selections and cross-breeding, and by the introduction of many fine varieties from the Uralo-Caspian region that have never yet been grown in this country. The hard wheat region should be more widely extended by planting northern varieties farther southward. This has already been accomplished to some extent. The macaroni industry could be greatly developed, thus giving a greater home demand for wheat. To this end, more of the Mediterranean varieties should be imported for seed, since only these wheats make the best macaroni.

The hot water treatment for cereal smuts, so repeatedly and widely published, seems to have attracted very little attention from farmers. There is no doubt that this very simple treatment, once generally used, would greatly increase the value of northern wheats, so notoriously smutted at present, besides increasing the yield at least ten per cent. The millers need especially to unite in absolutely refusing to receive smutted wheat.

The wheat rust question is so little understood that it is about impossible to obtain statistics concerning its ravages. We only know that the damage is enormous in some years.

Experiments carried on by the U. S. Department of Agriculture at Garrett Park, Md., in which 865 varieties of wheat and 110 of oats were tested for rust resistance, show by this season's results that many varieties are able to resist rust to a great degree, but seem to show also that the orange leaf rust, which was alone present here, even in greatest abundance, does very little damage. The evidence, so far, seems to show conclusively that even in this country we shall have to return, after all, to the old idea, that the black stem rust does all the really serious damage to both wheat and oats. But, as the life-history of this rust is yet wholly unknown in this country, there is evidently much investigation needed.—*Abstract from Proceedings of the American Association for the Advancement of Science, Springfield, Mass., 1895.*

Perseverance Wins.

Although no quality is sufficient to command success in life's undertakings, perseverance is one of the most essential. It frequently compensates for lack of ability or preliminary training. Everybody is acquainted with the bright young man who has never fulfilled the predictions of his future greatness, and if one should seek the reason for an explanation of his failure it would generally be found in a lack of perseverance. The slightest difficulty or obstacle is sufficient to turn such a man from his course. He tries one profession or business after another only to find that hard work and patience are required in all of them, and as he has an exalted opinion of his own powers and merits, he is unwilling to go through the drudgery necessary to command success. Other men of smaller natural powers succeed in the professions he has abandoned because they have been persevering. Obstacles have only whetted their appetites and made them more zealous, and the result of persistent endeavor has been such mental and moral training as makes amends for a want of special ability.

It is, indeed, a common observation that the dullard, if persevering, has a distinct advantage over the quick learner who makes little effort and consequently gets little mental exercise. There is advantage, of course, in having both natural ability and perseverance, but, if one cannot have both, perseverance will generally be found more conducive to success than talent. As the great young men are not specially gifted, this is to them a comforting reflection, for they can command the other quality. It will be found of special service to them during their school years. No matter how dull they may be, if they will persevere in their studies, determined not merely to memorize, but to understand their lessons, they will not only succeed in their purpose, but will acquire such training as will be of the greatest service to them in after life, when they get out into the rough world they need sterling qualities to obtain success. They will not find any great demand for their services, however able they may be. On the contrary, the world will be entirely indifferent to their presence, if not to their existence. They will have hard work getting even so much as a chance to exhibit their powers, and get little sympathy if they should fail, and few congratulations if they should succeed. Under these discouraging circumstances, so different from the optimistic views of young graduates, they will need all the fortitude and perseverance they can command to keep on doing their full duty to the best of their ability until the day of recognition shall come. And it will come to those who persevere, for the world, though cold and suspicious, is not ungenerous to those who have been tried and have proved worthy. The merely able man will never get a chance to exhibit his powers if he should be discouraged at the first rebuff, and to prepare him for such disappointments and encourage him in his efforts to overcome them, he should be trained at school and at home to persistent effort—to persevering endeavor.—*Baltimore Sun.*

You should be able always to give a good reason for doing, or leaving undone, certain things and practices on the farm. If you are an average farmer only, why is it that you are so indifferent about your business? If you keep scrub stock, what is your reason therefor? Farmers don't study the whys and wherefores of their business like other people.—*Agricultural Epitomist.*

The Farm Workshop.

Among the things that are both convenient and useful to the farmer is a workshop. The size of the building, or of the room, if an entire structure is not required, is to be modified by the size of the farm and the special line of farming that is pursued. The completeness of its equipment will also be modified by the same conditions. But it is safe to say that no farm is too small to need a workshop, and that no large farm can be profitably managed without one. Though a workshop is essential to the most profitable management of a farm, it is not to be inferred that the owner must make work in it a specialty in his business. It is neither necessary nor desirable that the farmer should become a carpenter or a blacksmith. He does not need to become an expert in the use of tools which are employed in mechanical affairs. He has no time to "learn a trade," and if his farm is properly attended to, he will have no time to practice it if he has one mastered. But it is for his interest to know how to use the saw, plane, auger, and other simple tools; and if on a large farm, and especially if some distance from a blacksmith shop, he should have a hand forge, and understand some of the simpler methods of working iron and steel. If he is at all "handy" with tools, the farmer will soon be able to use intelligently all the kinds which he requires. Those who do not readily get the proper way of handling tools will find a good deal of assistance in various books that are published for the purpose of helping beginners, and in observing how carpenters and blacksmiths use them when at their work. Only the simplest jobs should be attempted at first. Even these may, and probably will, be very crudely performed. But facility will come with practice, and in a short time the farmer will be able to do many a piece of work, which, but for his shop, he would be obliged to take or send some distance from home.

In order to use tools of the kinds needed on the farm to any advantage, there must be a workshop. Indeed, such a place is needed for the safe storage of the tools. The man who has tools, but who has no particular place in which to keep them, often finds them injured by exposure to the weather; and sometimes, because they have been mislaid or have been borrowed by some neighbor who has forgotten to return them, he cannot find them at all. Another advantage is found in the fact that many of the jobs for which these tools are needed can be done in rainy weather, if a suitable place under cover is provided; and thus, during the busy season of the year, a great saving of valuable time is often effected by having a workshop.

To many farmers the expense involved in fitting up a workshop and obtaining tools appears too large to justify them in thus enlarging their present sphere of work. Many, too, will reason that they cannot do a very great amount of mechanical work, even if they have a place and tools, and that as, in any case, most of their jobs must go to the carpenter or the blacksmith, they may as well all go to these workmen. But the expense of fitting up a workshop of the kind needed on an ordinary farm need not be large and the tools can be purchased a few at a time until a fair equipment is obtained. Besides, the benefit of having a workshop is not to be found in doing large jobs, which would naturally go to a skilled mechanic. Even if the farmer gains sufficient skill and can find time for these things, he should not attempt to do them. The community needs mechanics, and these men should have their share of the work which is to be done in their special lines.

But there are many little things, which if attended to in time would prevent the necessity of doing large jobs later on; and what is of far greater importance, prevent many a serious accident. A loose bolt in a machine, a crack in a wagon shaft, a rip in a harness—these, and many other apparently little matters, can be promptly attended to by the farmer with but trifling expense, if he has a place in which to do the small amount of work which they require. Such matters would be thought too insignificant to employ anyone else to look after; consequently, they would be neglected until an accident occurred, or they became so serious that further delay was absolutely dangerous. Then, too, it is very convenient to have a place in which the harness can be cleaned and oiled in bad weather, and numerous other matters pertaining to the farm work can receive attention. And last, but not by any means least, it is well to have a place in which the boys can learn the use of tools. They will soon be able to make various things for themselves, and will also become qualified to make numerous labor saving implements, such as are described in the Short Cuts Department of the *Practical Farmer*, and to keep the tools and machines of the farm in good working order.—*Practical Farmer*.

Station Extension Work.

Acting under a special law of New York State, the Cornell experiment station has engaged in extension educational work. The law, it claims, was the outgrowth of public sentiment and not at all pushed by Cornell University. In discussing the subject, Prof. Bailey says:—

"One of the distinctive marks of the last decade in educational lines is the extension of university teaching to the people. Probably no movement of the latter part of the century is destined to exert a greater influence upon the form of our institutions and civilization than this attempt to leaven the entire lump of citizenship with the inspiration of higher motives. The agricultural experiment station movement is itself a part of their general desire to carry the new life to every person, whether college-bred or not.

But this movement, beneficent as it is, still lacks some of the means of making itself felt. It must have a closer vital connection with the people. The people must be made to hear, even though they desire to be deaf."

The extension work on its practical side constituted a series of schools, so called, formed in different areas of the State. The enrollment varied from sixty to one hundred persons. Five of these schools were held. The first one, held at Fredonia, continuing for four days, discussed twigs, landscapes, fruit buds, seeds, soils, leaves, chemistry of grapes and soils, flowers, tillage, fungi, fruits, and the apple. These were treated by object teaching as far as possible, and from the standpoint of fundamental principles, much as in the school room only in a condensed way. The students at the close of each day were questioned upon the subjects of discussion. Those attending brought note book and pencil. This school in question, as will be observed, was for horticulturists.

Our old institute system has reached the zenith of its utility, and must give way to further advance. The public press, bulletins, and books on agriculture have familiarized the farmer in a loose way with much of the literature of agriculture. This knowledge lacks connection and system. Institutes must give way to something of the general nature of the New York experiment.—*Mirror and Farmer*.

A Hint to Country Girls.

The constant influx of girls from the country into large cities brings with it portentous dangers and evils. Dreaming of an easy time, and good wages, a better wardrobe and more congenial companions, dazzled with the vision of city amusements and hoping perhaps to find a marriageable partner and settle down into a comfortable city home, thousands leave the farm or the village and flock to the metropolis. Here many confront a situation far different from that which they imagined in advance of their actual experience of city life! The wages they get are meager, their lodgings are far from comfortable, they have no home life, they face new temptations and trials, and their life becomes one of hardship and trouble. In the store, factory, shop or office they are beset with danger and annoyance, while all about them are pitfalls spread for unwary feet. Some of them, with unusual aptitude for stenography, typewriting, and kindred occupations, or with executive gifts, make their way to the top and secure first class posts, but a great multitude struggle and almost starve on \$5 or \$6 a week. This latter class are not able to save any money. A week's illness brings them into debt, and a month without employment renders them objects of charity.

How much better it would be for most of them were they to stay at home, help in the household, or accept such work as might be available on the farm or in the village. Our large cities now contain thousands of girls in a sorry plight, either without employment or struggling for bread—girls who might have remained in comfort at home, or who could have found work of some sort in a country town to support them, with less loss of strength, nerve power, and vital force, to say nothing of the dangers which now beset them in the city. What kindness it would be to thousands who are helplessly planning to rush cityward "to find something to do" could a persuasive word reach them and say, "Better stay at home."—*New York Correspondent*.

Lawns on Our Farms.

At this season everything about the premises on the farm has donned its holiday garb of green and the flowers are brightening the prospect.

There is a vast difference between nice, tidy farm surroundings and those that are the reverse of nice and tidy. The latter never suggest a beautiful home with pleasant surroundings. Many homes otherwise comfortable are made less attractive by thoughtless planting and ill-judged attempts to beautify the front lawn. What! a lawn on a farm? Why not? There would be less desire to leave the farm manifested if the home surroundings were made more inviting. It is not difficult to have a nice lawn with evergreens in "hit or miss" fashion. Trees in rows on the lawn look stiff, rigid, and artificial. The drought of last season killed four fine evergreens for me which were from four to ten feet high, and which had been set out several years. I believe the blue grass helped to cause this loss, and yet I cannot do without the blue grass. There are plenty more left, however, and the best will be made of the remaining ones.—*Iowa Homestead*.

Our Country Roads.

With a few trees planted at the sides and the road beds well made and kept in order, what beautiful, attractive, and delightful scenery might be found throughout the country. Let the scene presented herewith confirm this opinion. But a few years ago this was one of the meanest and most impassable of roads; dirty, muddy, and unsightly; the scene of many a rough, hard pull for every beast driven over it, and the dread of every owner of a team from the country or a buggy or carriage from town. We can conceive of nothing so calculated to add pleasure to those who have to use roads as to once make them good and then keep them in order. It promotes the use of horses, carriages, and bicycles; affords pleasure to all who drive, and health and happiness to women and children. We are cooped up too much for health or wealth, and as a consequence become weak and puny, nervous and dyspeptic, and both shorten our days and make them miserable besides. Such a road as is here pictured costs but little to make or keep, and adds dollars to the value of adjoining property and of all property to which it leads.—*Colman's Rural World*.

FARM NOTES FROM VARIOUS SOURCES.

When you purchase a new mower, reaper, cut-away harrow, or cultivator, don't forget to also replace that old, burned-out cooking stove with a new one, and the same with the churn, washing machine, sewing machine, etc. The way to have sunshine in the house is to make it.—*G. H. Turner*.

Secretary Seward, after a review of his experience in public life, is quoted as saying to a friend at the conclusion of this review: "With all this experience before me and within my own bosom, this is the happiest lot I can wish for my sons: To be owners of farms, well stocked, out of debt, and know nobody more than ten miles from home."

It seems to be the general plan among the very best farmers all over the country to decrease acreage and make their farming more intense than ever before, and get along with as little hired help as possible. Farming within one's self, thereby cutting off much outside expense, is a good way to hedge over the hard times.—*Agricultural Epitomist*.

The day of extensive farming may not yet have arrived in the new West, but I think there are grounds for saying that there is room on most extensive farms for a good deal of intensifying. The "razor back" is extensive in snout and in habits of industry, but the modernized porker is intensified in its points of utility. The improved hog thus intensified gives better profit as a result of the intensified management he requires. Intensive farming means that there will be no waste of feed, of labor, of money, or of time, but that employment of all these should be studied so that they may bring the greatest advantage.

There are now 74 experiment stations in the United States, counting branch stations, in which 576 specialists are employed. The range of investigation covered includes the products of the farm, garden, and orchard, and the raising of domestic animals, together with their study from every point of view from which it is thought something may be obtained for the good of the farmer; the study of the soils, the waters, and climate in all their relations to agriculture, the flora and the insect fauna and their relation to man, his stock, and his crops; in fact, nearly all questions directly affecting rural economy.

No man has a right to talk of irrigation, unless in the arid regions of the country, till he has used all the water that falls from the skies. He should learn to keep it on the farm by good tillage. The men that make the most out of fertilizers are, as a rule, those that till best. There is a great deal of fertility locked up in the unbroken clods. A man cannot afford to irrigate till he has learned to till. If we have prepared our land deep by plowing, we create a reservoir that will hold a great deal of water. Now, in the future there will be a good deal of irrigating done, but it will be by men that have learned to till.—*Colman's Rural World*.

Does it occur to farmers that they should take a rest? I don't mean a rest on the plow beam, on the fence, or in the hammock under the trees. I mean a rest away from home and daily work, if such a vacation can be arranged for. None deserve rest more than does the farmer, and he should manage to take a short vacation, if only for a week or two, after harvest is over. Leave home and spend the time with friends or at some lake, taking the wife and some of the children. I know a great many farmers, but I do not know of any who are too poor to rest for a week. One farmer and his family, with whom I am acquainted, took a team and tent and started—they knew not where. When night overtook them they pitched the tent in a grove and next day returned by another route, rested.—*Iowa Homestead*.

Not much is said about the girl on the farm, although there is a great deal said about the boy leaving the farm. Very little is said about the boy leaving one farm to pay attentions to the girl on another. As this is not criticised, we suppose it must be right. Certainly there is no class of girls that make better wives than the girls from the farm. If some of the girls on the farm could see the crowded factories, the pale type-writer girls, the lady clerks, etc., they would be satisfied with their lot and give up any idea of leaving the farm if they entertained it. The farm girls do not ride horseback, hitch up the team, drive to town and do as much farm work as they once did. They practice on the piano, which is all right, and crisp their bangs, which is not particularly wrong, but they should not forget that they want plenty of outdoor exercise. Girls can romp without boyishness and still be ladies.—*Exchange*.

We have heard a great deal in the past years about the influence of forests in promoting rain-fall or securing its distribution. We have never taken much stock in these theories. The subject is too large a one for theorizing. We call attention just now to the fact that the rain-fall was most abundant in '94 in the treeless plains of Kansas and the Southwest. Southwest Iowa received more timely rains and more of them than Southeastern where the timber is larger than any other part of the state; that timber covered Michigan, located between two great lakes where there was abundant evaporation, fared worse than the countries far removed from the lakes and rivers and with groves only around the houses. The fact as we take it is that timber is the result of rainfall, not of one season or two, but average rainfall and not rain-fall the result of timber. The Almighty had his plans for watering the earth formed and put in operation long before man appeared upon the planet, or as we say before Adam was a baby, and they are not likely to be interfered with by anything that man can do or can not do. Man has much to do with the conservation of rain-fall. He has to do with the rain after it leaves the clouds but not a thing on earth to do with it before hand.—*Wallace's Farmer and Dairyman*.

Calendar.

1895-96.
 Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1896-97.
 Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

The President's office has a new carpet.

J. J. Fryhofer, Fourth-year, spends his Sunday at Keats.

Mabel Cotton, Fourth-year, enjoys a visit from her mother.

Ed. H. Webster, Fourth-year, goes a Maying to Randolph.

Regent Daughters, Treasurer of the Board, was at the College Wednesday on business.

Mabel Cotton and Grace Secret, Fourth-years, visited at Keats the first of the week.

Miss Blanche Brown and Miss Stockton were among the visitors at chapel exercises.

Mr. J. E. Marshall, editor of the *Concordia Daylight*, visited College this morning with the Baptist Young People's delegates.

Mrs. Hood was called to Marshall, Ill., on Monday by the death of her cousin and foster sister, Mrs. Delaney, who spent the summer here several years ago.

The Mechanical Department has just completed a set of models in descriptive geometry for Professor Finch of the Department of Graphics of the State University.

The Monday holiday meeting with the approval of the majority of Faculty and students, has been adopted for the next College year and announced in the Catalogue.

The delegates to the Baptist Young People's Rally of the Blue, Kansas, and Republican Valley Associations held in town yesterday and today, visit College in a body this morning.

Professors Walters, Brown, and Will are late subscribers to the Manhattan Telephone Exchange. They jointly bear the expense of the line which connects their homes with the circuit.

Mrs. Kedzie's illustrated lecture at the M. E. Church on Monday evening was a treat to all present. She described some of the many places and things of interest seen in a trip through Switzerland and Holland. A large number of beautiful stereopticon views added to the interest.

Inspector General Moore of Fort Logan, Denver, had little opportunity for criticism in his inspection of the College Battalion on Thursday afternoon. The Cadets never appeared to better advantage, and the large number of visitors had many good things to say of them, individually and collectively.

The College Young Men's Christian Association will send two members to the summer school at Geneva Lake, Wis., this summer—Messrs. S. J. Adams and Guy Hulett. The Young Woman's Association will be represented by Miss Emma Finley. Miss Gertrude Lyman may also attend the school.

The Societies have selected Dr. Bernard Bigsby of Detroit, Mich., to lecture before them Commencement. The subject selected, "The Science of Language," was chosen upon his recommendation. He said: "It is not as dry as it appears, but is full of fun and possesses a world of deep thought; and it is very popular." The lecture will be Monday evening, June 8th.

Geo. F. Thompson, Superintendent of Printing at this College from 1883 to 1887, now in the Division of Publications, Department of Agriculture at Washington, gains mention in the letter of transmittal accompanying the Index to the Annual Reports for "diligence and intelligence in the performance of his duty." The Index covers reports from 1837 to 1896, and is a volume of 252 pages. The details of the work were confided to Mr. Thompson.

Orations are delivered today by the Third Division of the Third-year Class in the order given. "The Real Issue," L. G. Hepworth; "The Future Woman," Ina Holroyd; "Great Caves of the World," C. H. Hoop; "Class Spirit," Winifred Houghton; "The Resubmission Question," C. B. Ingman; "The Advertiser," Bertha Ingman; "Victory in Defeat," Olive Long; "The Chief Cause of Crime," O. E. Noble; "Popular Election of United States Senators," C. E. Rice; "Mountain Climbing," Alice Shofe. The Cadet Band furnished the music for the program.

The College has received a medal and diploma for an exhibit of "Prize-taker" onions, shown at the Columbian Exposition in 1893. The "award is for very fine appearance; would sell in any market; it is a large producer, and entitled to commendation." The diploma is beautifully engraved, and will have a place on the walls of the Horticulture office when framed. The medal is of bronze, about four inches in diameter, imbedded in velvet and hinged in a richly chased aluminum case. The onions referred to was the only product of the Horticultural Department shown separately in competition for a prize,

the exhibit of the State Horticultural Society including many products of our College gardens and vineyards.

C. H. Benson of Hull, who was on his way to a claim in Oklahoma, stopped off a few hours today with E. Butterfield, Second-year.

Miss Radford, State Secretary of the Young Women's Christian Association, greeted the members of the College organization this forenoon.

GRADUATES AND FORMER STUDENTS.

Victor Emrick, '95, closed his school Tuesday.

Minnie Romick, '94, visited her Alma Mater this week.

Mrs. Mayme Houghton-Brock, '91, attended chapel exercises.

Florence Corbett, '95, and her mother visited College today.

J. J. Johnson, '95, has employment in the Veterinary Department.

W. E. Smith, '93, closed a successful term of school at Riley this week.

C. E. Pfuetze, '93, for several months past substitute railway postal clerk, has received an appointment as a "regular," on the Kansas Southern from Kansas City to Kiowa.

J. C. Christensen, '94, has the honor of being the only teacher granted a first-grade certificate at the last county examination.

Maud Kennett, '95, has a place on the program of the Baptist Young People's Rally. She visits College friends between sessions.

The following graduates, students, and former students take part in the program at the Baptist Young People's Union Rally: D. H. Otis, Maude E. Kennett, J. W. Bayles, J. H. Criswell, Mary E. Lyman, W. O. Lyon, Belle Frisbie, W. L. Hall, J. B. Norton, Ellen Norton, Gertrude Havens, and Grace Wells.

F. J. Smith, '95, attended the Inter-State Oratorical Contest at Topeka on Thursday and Friday. Nine colleges, representing as many States, took part. First place was awarded to A. M. Cloud, Lenox College, Hopkinton, Iowa; second, to Fred Elliott, Monmouth College, Monmouth, Ills.; third, to F. L. Platt, Washburn College, Topeka.

C. L. Marlatt, '84, First Assistant in the Entomological Division, Department of Agriculture at Washington, D. C., stopped to visit his parents a few days on his return from Texas, where he has spent two weeks inspecting the cotton fields in the Southern part of the State, which have been seriously damaged by the ravages of the Mexican cotton-boll weevil. He enjoys his short visit the more since he cannot be present at the Alumni Reunion.

Shop Notes.

The Fourth-years in the wood shop are putting in a good many extra hours in order to finish up desks and other articles on which they are working.

Another dozen cases for the Military Department have been finished and placed in position. This makes twenty-four in all which the Department has made, the work all being done in industrial hours.

An adjustable model for universal valve movement, designed by C. M. Giddings, Rockford, Ill., is nearing completion in the iron shop. The body is of wood, six feet long, representing in outline the engine body. On this are arranged the piston, valves, and crank arm, made of wood and iron. Three forms of valve movements can be shown—the simple slide, the double slide, and the Corliss valve movements. Adjustment can easily be made for the setting of these valves, showing the right and wrong way of setting, and their action when in actual practice. The whole is gotten up in a very neat and compact shape, and will be a valuable addition for the classes in engineering.

ED. H. WEBSTER.

The Battalion Banquet.

We realize how true were the words of Thackeray, "Novelty has charms that our minds can hardly withstand," when we learn of the new custom of an annual banquet by the officers of the Battalion and the Band, the first of which was given last Monday evening, May 4th. To say that it was one of the most pleasant occasions of the college year, would be putting it in mild terms. The beautifully decorated hall was in harmony with the occasion, the red, white, and blue being the prominent colors; and none the less attractive were the palms and flowers of various kinds.

The band and the several officers, in uniform, each escorted his lady friend to the ball, and by 8:30 all were thoroughly enjoying themselves, and that without the least possible effort. Highly appreciated were the amusements, being interspersed with delightful strains of music by the band. The refreshments, served later, were the welcome visitors of the evening; and especially noticeable was the waiter in duck behind the sherbet counter.

After this came one of the most attractive features of the evening. Toastmaster Capt. Cavenaugh arose in all his dignity, and after a few preliminary remarks, announced that Capt. Finley would give the "Toast to the Ladies." It may be well said that they were not blushing of shame that stole over

the fair maidens' faces when the speaker addressed them as "Ladies of the Battalion." In response, Miss Shartell voiced the sentiment of all present in deeming it impossible to express the appreciation of the pleasant evening just spent.

Lieut. Thomas gave a very entertaining toast to the "Band," to which Mr. H. G. Johnson very ably responded. The band then gave a few more selections, but to the ladies they played in vain, "She May Have Seen Better Days." Late in the evening the merry crowd of about a hundred were found wending their way homeward, feeling that this was an occasion never to be forgotten. G. M. L.

The City Condensed.

Superintendent Knipe of the City Schools was re-elected without opposition at the same salary as last year.

H. J. Allen and family have moved to Ottawa, their new home. Mr. Allen will buy the first good newspaper property he can find on the market at a fair price.

Engel Bros. and R. B. Sarber are laying out a fifteen-foot bicycle track in Sarber's grove, across the river.

Misses Elizabeth Edwards and Florence Beverly sailed for England on Thursday from Philadelphia. They will return in September.

Rev. W. S. Lowe, the new pastor of the Christian Church, was given a hearty welcome at the Christian Church on Friday evening of last week. Several pastors of other churches made brief addresses. Secretary Graham presided.

Mr. and Mrs. E. L. Knostman entertained a party of young folks on Tuesday evening in a "Salmagundi" party. The term was well applied to the pleasing mixture of games, ranging from jack straws to parcheesi, played progressively at seven tables. The souvenirs were hand-painted cards, those for each table bearing some illustration of the duties of the particular day of the week there represented. Refreshments were served at a late hour.

The Baptist Young People's Union Rally is largely attended, and the sessions are of much interest.

The north wall of the M. E. Church is taken out in readiness for the erection of the walls of the addition.

COLLEGE ORGANIZATIONS.

Student Editors.—Gertrude Havens, E. G. Gibson, F. E. Uhl.

Alpha Beta Society.—President, M. G. Spalding; Vice-President, Clare Wilson; Recording Secretary, Ed. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce; Board of Directors, J. M. Westgate, Guy Hulett, Marian Gilkerson, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, C. D. McCauley; Vice-President, R. W. Bishoff; Recording Secretary, W. B. Chase; Corresponding Secretary, J. E. Trembley; Treasurer, W. T. Pope; Critic, S. Dolby; Marshal, W. H. Young; Board of Directors, J. B. Dorman, R. J. Peck, L. A. Nelson, J. G. Haney, F. Gregory.

Hamilton Society.—President, C. E. Pincomb; Vice-President, W. L. Hall; Recording Secretary, L. G. Hepworth; Corresponding Secretary, V. Maelzer; Treasurer, A. D. Coe; Critic, R. K. Farrar; Marshal, A. J. Pottorf; Board of Directors, C. S. Evans, H. M. Thomas, E. O. Farrar, G. W. Finley, B. H. Shultz.

Ionian Society.—President, Minnie Pincomb; Vice-President, Winifred Houghton; Recording Secretary, Sue Long; Corresponding Secretary, May Bowen; Treasurer, Flora Allingham; Critic, Maggie Carleton; Marshal, Bessie Lock.

May 2nd.

The Hamiltons were called to order by Vice-President W. L. Hall. Roll call showed a good many absent, but their places were filled by a host of lady visitors. G. W. Finley led in devotion. Owing to the failure of a few negligent Hamiltons in not appearing for installation, they were declared ineligible to office, and R. K. Farrar, as critic, G. W. Finley, as a member of the Board, were elected in their places. The program was opened by H. F. Hatch with a humorous declamation. B. F. Shultz read an interesting essay on "Chivalry." Its history was outlined and the method of obtaining knighthood described. Those ancient cavaliers had a great influence in bringing out the good and noble qualities of man, and though gunpowder has long since destroyed chivalry as such, its influence is still felt. Miss Rhodes favored the Society with a piano solo. M. C. Adams in his discussion on "Railroads" showed his ability in extemporaneous speaking. He pointed out that many useless roads have been built, and many useful ones not built, such as a through line from the grain districts to the gulf. "The Polish Boy" was read in an interesting manner by H. McCaslin. The question, "Resolved, that there should be a permanent Court of Arbitration established between the United States and England," was argued affirmatively by R. S. Kellogg and H. M. Thomas. They held that in order to maintain commerce, which is the life of England, peace must be kept. The cheapest way to keep peace is by arbitration. War does not make justice; arbitration does. A permanent court of arbitration between two strong nations would be a great step in advance, and set a good example for other countries. Ordinary differences of men are settled by court, and there seems to be no reason why national disputes cannot be settled in the same way. There are but two ways of settling differences, viz., war and arbitration. The latter is by far the simplest, cheapest, and most expedient. C. E. Pincomb and J. W. Adams supported the negative. They held that there were no objections to arbitration, but that the permanent court would not prove satisfactory. Doubtless it would be handy, but it could not do justice. Its decisions could not be enforced. True, nations may agree to abide by such decisions; but if a decision be directly against one nation, it would, if the question be grave enough, declare war. In 1893, an attempt to establish a court between the countries of North America was made, but has not yet been adopted. A permanent court would be inferior to a special court. The former would be more liable to bribery. The Society

decided in favor of the negative. The "Star Quartette," colored, ushered in by Marshal Trumbull and introduced by Mr. Owens, a Webster, entertained the Society with two well rendered songs. The regular routine of business was carried out, mingled with fine parliamentary discussion, — a characteristic of the Hamiltons, after which the Society adjourned.

V. M.

May 2nd.

At 7:30 the Websters assembled in response to the gavel call of President McCauley. After roll call, prayer was offered by T. M. Robertson. A. Hutchinson became a full-fledged member of the Society. Debate on the question, "Resolved, that the Adoption of Field Athletics in this College would be Unwise," opened the program. The affirmative insisted that this College is attended principally by persons coming for other purposes than athletic training; that time spent at such training should be spent at studies; that it would attract undesirable persons to this College. We have here ample opportunity for exercise in industrials, drill, etc. The cost of carrying out field athletics is not a small item. Contests, unsatisfactory and often dangerous, are outgrowths in most cases, and are the source of little or no gain. Said the negative, how can we study when we are not well? By taking such exercise, we can do much more studying in less time. Contests are not wrong. By contesting with other Colleges or establishing a field-day, we would advertise our College. Field athletics should be practiced under the supervision of the Faculty, and beneficial results would certainly follow. The affirmative was upheld by J. E. Trembley and O. N. Blair; the negative, by F. H. Day and R. B. Brown. The negative was decided victorious. A. C. Miller read an interesting description of "Northern Michigan." C. Masters brought forward a First-year quartette, that is hard to beat, who responded to a hearty encore. "Responsibilities of Our Republic" was the title of J. A. Lovett's declamation. J. B. Dorman read, in a very appropriate manner, Arnold's selection on "The Buried Life of Man's Nature." While a chorus, introduced by M. Horn, were pouring forth their melody, the audience was enlarged and greatly improved by the ushering in of sixty or seventy young ladies, chaperoned by Mrs. Kedzie. R. J. Peck appeared as editor of the Reporter; his motto was, "He that Senses the Situation Sweeps the Stakes." It showed the result of careful work. G. W. Owens introduced the Star Quartette, which favored the Society with some excellent music. During the business session the minutes were cleared of all unfinished business, leaving a clear and broad road for progress. The hour of meeting was changed from 7:30 to 8:00. J. E. T.

May 2nd.

The Alpha Beta Society was called to order by Vice-President Clare Wilson. The opening number of the program, a vocal trio by Lucy Cottrell, Grace Secrest, and M. G. Spalding, was appreciated by all. Mr. McElroy led in devotion. The Society was then favored with another vocal selection by a quartette, consisting of Misses Tannehill and Streeter, and Messrs. Spalding and Hulett, Miss Reed at the piano. Following this, was a select reading, "Unfinished Problems of the Universe," by W. A. McCullough. The question, "Resolved, that the Negroes and the Whites Should not have Separate Schools," was debated by Grace Dille and E. Shellenbaum. The affirmative arguments were that it is prejudice which causes us to wish to exclude the negroes from our schools. They should be treated in such a way as to make them patriotic, self-respecting citizens. Separate schools tend to foster a spirit of contempt on the one side, and of debasement on the other. It is impossible to maintain two sets of schools, since in many districts there are not enough negroes to make a school of their own. Co-education has been tried, and has proved successful. The negative argued that if negroes and whites attend the same school, the whites are apt to show a feeling of superiority over the negroes, which the latter resent. The result is that the peace and harmony of the school is destroyed and the work checked. If kept separate, they would not interfere with each other's work. Most teachers will show partiality towards the white pupils. The colored schools are making good progress. Colored schools call for colored teachers, and this is an encouragement to the negroes to educate themselves. The negroes will make better and more self-repecting citizens if educated in schools of their own. The Society decided in favor of the affirmative. Piano solo by Miss Gilkerson. An excellent number of the Gleaner, with the motto, "There is Alway Something to Do," was presented by Minerva Blachly. In an essay entitled "Does Intellectual Work Destroy Beauty?" Miss Gilkerson argued that it may do so indirectly. By over-study, late hours, irregular meals, lack of exercise, etc., the student may injure his health and destroy his beauty. After recess and roll-call, Mr. Havens briefly discussed "The College Social." Others also took part in the discussion. The general opinion seemed to be that to improve the social and to get the most enjoyment from it, we should take an interest in it and strive to make others enjoy it. Mr. Crowl discussed the importance to the farmer of a knowledge of botany. After a short business session, the Society adjourned. G. D.

May 2nd.

The Ionian Society was called to order by the President, Minnie Pincomb. After singing by the Society, Miss Stump led in prayer. Misses Asbury and Browning were elected and initiated. The program was opened with a recitation by Pearl Cunningham, given in her usual pleasing style. Miss Barnes presented a number of news items which showed the past month to have been an eventful one. The Oracle, edited by Miss Goode, had for its motto, "True worth is in being, not seeming." The violin solo by Mr. Rogler received a hearty encore, to which

he responded. Ellen Norton gave an entertaining and well-written allegory. Under extemporaneous speaking, a number of interesting and appropriate topics were considered. Miss Finley's remarks on "Examinations," this being just at mid-term, were received by a sympathetic and appreciative audience. "Serenades," by Minnie Spohr, unfolded to us some of the possibilities of these beautiful spring evenings. "Tooth-pick Shoes," by Miss Doll, and "Church Weddings," by Miss Hall, were considered and approved. Miss Lantz read the first chapter of a select reading from "Standish of Standish." Louise Spohr read an excellent poem by one of our honorary members, Verta Cress. The closing number, a vocal solo by Miss Perry, was enjoyed by all. Considerable business was transacted. A committee consisting of Misses Pearce, Rice, and Helder was requested to make plans for an Ionian reunion sometime during Commencement week. The Society tendered a vote of thanks to Prof. Brown for his kind and efficient assistance in the preparation of music for our exhibition. M. H. B.

Mental Influences.

For good or for evil, men influence each other by simple suggestion, putting in action a train of thought. There is nothing occult about this process, though it sometimes seems like the influences which hypnotists allege that they exercise over their subjects. All men are more or less impressionable, and having a suggestion, they elaborate it themselves and ultimately make it their own. Iago makes no charge against Desdemona, but he suggests a doubt of her faithfulness to Othello, and the latter absorbs it and makes it his own. Left to himself, he would have remained loving and truthful, but under the influence of suspicion subtly conveyed to him, and blinded by jealousy, he distorts every circumstance into proof of guilt as he sweeps to revenge. Iago is, after all, only a type, and the story woven into the play of Othello is repeated in varied ways every day of the year, and in all communities. It is the story of the power of one mentality to impress itself upon another. This power is not always abused. It is used for good purposes as well as for bad ones, and it is because of the existence of this power that one should be careful in the choice of intimates.

The proverbs which warn one against evil companions are based, apparently, upon the influence of bad examples, but the real danger arises from the influence of mind upon mind. The mere suggestion of evil may set in action a train of thought which once started will need no further impulse from outside. The generous mind, poisoned by the suggestion of a doubt of humanity, becomes soured by confirmations of the suspicion thus engendered. A simple religious faith may be shaken in the same way and never again return. On the other hand, however, it is just as easy for the good and noble to influence the thoughts of others. That is, indeed, the function of the teacher and the priest. These guides to right living can do little more than suggest wholesome thoughts to be elaborated in the minds of their pupils. If this be true, it is obvious that we should be careful of the mental influences to which we may expose ourselves. We should seek the pure and innocent-minded, the noble and good, that our minds may be influenced in the right direction, and we should avoid association with evil-minded, the cynical, and the impure,—and especially those who invest themselves with a sneaking commission to gather and distribute scandal,—that we may escape infection with what may prove to be mental poison. Humanity presents different aspects, according to the eyes with which we look upon it. For our own satisfaction and peace of mind, if for no other reason, we should cultivate that view of it which teaches us more of the virtues of men and women, than their vices; more of their nobleness and generosity than of their debasement and self seeking. And we can do this only when we surround ourselves with friends and intimates whose mental influence upon us is sound and wholesome.—*Baltimore Sun.*

Uses of College Training.

"It is not entirely safe to claim that every kind of success, even of legitimate success, will be promoted by a college training," writes Rev. Charles H. Parkhurst, D. D., in *Ladies' Home Journal*. "If I had a boy for whom it was my supreme ambition that he should become rich, I should not send him to college. So far from helping his prospects in that direction, it would probably damage them. Money-making is a trick. The easy acquisition of it is a knack. It involves the condensation of interest and faculty along a particular line, and that a narrow line. There is nothing to hinder a very small man from being a very wealthy one. Shrewdness does not imply big-mindedness. I might say with a good deal of assurance that it implies the contrary. And shrewdness has more than anything else to do with the acquisition of gain. * * There are a great many things that can be best done by the man who does not know too much, or, at least, by the man whose intelligence is concentrated at a single point or along a single line. The mechanic who has come to be known among us as the 'wizard' would, perhaps, have been more of a man if he had gone to Harvard, but it would probably spoiled him as a 'wizard.' Genius is presumably always a species of mania, and liable, therefore, to become something very ordinary if successfully subjected to the processes of the asylum. They had better be kept away from college if the design is to make them experts. College will be able to give them a character of 'all-roundness,' but a knife can not be round and sharp at the same time; neither

can a boy. If we are going to do large, intelligent work, the prime condition is the possession of an intellect trained and stocked in the same general and comprehensive way.

"College training is simply the process of intellectually getting ready, not getting ready for this, that, or the other specific mental service, but simply getting ready—planting down a broad foundation of preliminary big enough to support any breadth or height of superstructure that there may be need or opportunity to put upon it. The college course and the requisite preparatory training cost about seven years of the best and most possible period of a man's life. But if a young man hopes to do a large, solid work in the world, a work in which intelligence of a broad kind is to play any considerable part, and there is no antecedent obstacle in the way, he makes an irremediable mistake if he considers seven years too much to pay for a liberal education."

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popeno, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work,—studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

SHORTHORNS

FOR SALE

Two shorthorn yearling bulls of the best breeding are for sale at the College Farm. Address

PROFESSOR GEORGESON, Manhattan, Kansas.

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

R. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc.

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ENGINEERING EDUCATION AND THE NAVY.

BY PROF. O. P. HOOD.

TO the far inlander, mention of the fighting men of the sea brings to mind bands of "Paul Jones' men," tattered and perforated vessels lashed together, and bloody hand-to-hand scrimmages, the combatants surging from deck to deck until the superior ferocity, tact, and courage of one company was recognized.

Not many years ago this vision would have been not far wrong. The combatant of that day was a man of physical power, of courage for hand-to-hand combat,—a strategist, artillerist, and, above all, a navigator. The bold sailor was predominant. Actual naval warfare is today a very different matter. Probably in no other place in the world is there so much condensed and varied mechanical engineering as is to be found within the hull of a modern gun-boat. The whole construction is a fighting machine, a product of the machine shop.

From its powerful and intricate propelling mechanism, which seems to give life to the inert mass, to its machine guns, electric lights, pneumatic hoists, its movable turrets, the whole construction must be in charge of a skilled corps of engineers. The number of men on such a gun boat connected with the engineer corps include from one-third to one-half the whole number on board. A gun boat must navigate for position, fight with her heavy guns at long range, and must be able to ram. In each of these functions the engineer corps is essential, while in some of the performances the navigating or the ordnance corps find themselves useless. Probably lack of ability, faithfulness, or patriotism in the engineer corps would produce more disastrous results than in any other branch of the ship service. The American Navy presents this peculiar condition of things. It considers the officers and men of the engineer corps as non-combatants, and places the lowest rank of the line above the highest honors of the staff, including the engineers. For years the engineer corps of the navy have tried to obtain the same recognition as is so freely given to the elite engineer corps of the army, and to obtain rank with the officers of the line. The reasons why this should not be done have been outgrown for some years, and it seems as if it had stood in the way of justice in the matter but the stubborn conservatism and jealousy of the line officers.

Both line and staff officers are trained at Annapolis. With the growing necessity for an enlarged engineer corps, the navy finds itself without sufficient engineers to man its ships, and, under the present unjust laws as to rank, good men are not encouraged to enter or remain in the engineer corps. To remedy these evils, a number of bills have been presented to the present Congress. The Wilson-Squire bill proposes to give proper rank to engineers—to maintain courses of instruction in naval engineering in the engineering schools of the United States, that they may become recognized as proper fitting schools for its naval engineers. As the land-grant colleges are supposed to give engineering instruction, this College would be interested in the passage of this bill.

The bill contemplates a strengthening of mechanical engineering courses as a basis for naval engineering study, a detail of a naval officer to teach engineering subjects, a loan of government models, etc., and government inspection.

Another bill of more direct interest to the College, supplementary to the above bill, proposes to do for mechanic arts what the Hatch bill did for agriculture in the establishment of experiment stations at each land-grant college, the engineering work to be co-ordinated through the Engineering Bureau of the Navy. The present Congress is not asked to appropriate funds for either of these bills, but, if passed, funds are to be hereafter appropriated. In both these bills, the Government is asked to encourage engineering education—in the first bill, in such a direction as will make it possible to draw naval cadets from the stimulated courses; in the second, to encourage investigation, and the development of the engineering possibilities in each State, and to put the Navy in possession of the results of engineering experiment stations.

From the earnestness with which the bill is being pushed, and its evident merits and justice, there is little doubt of the bill becoming a law, if not at this session, at some future meeting of Congress.

POISONOUS STOCK FOOD.

BY PROF. N. S. MAYO, D. V. S.

QUITE frequently reports are made of stock being poisoned, and in many cases the owner is firmly of the opinion that poison has been administered by some miscreant for purposes of revenge. While it is possible that such cases do occasionally occur, the majority of cases must be attributed to some other cause; and in all cases that have come under my observation, all the evidence pointed to accidental poisoning by the animals eating poisonous food. Of the poisons that are likely to be used by malicious persons in stock poisoning, strychnine, corrosive sublimate, and arsenic are apt to be chosen. In case of strychnine poisoning, animals and persons are taken with spasms which gradually increase in severity until the victim suffocates by the continuous contraction of the muscles of respiration. Arsenic and corrosive sublimate are both irritating poisons, and cause inflammation of the tissues such as the mouth, gullet, or stomach, with which the poison comes in contact. All of the above poisons are not agreeable to the taste, and would have to be disguised in some kind of food. Unless there is convincing evidence of malicious poisoning, other sources of getting the poison accidentally must be looked to as the cause of death.

Animals have been poisoned by eating corn fodder which was grown on very rich soil and contained large quantities of saltpetre (potassium nitrate), which came from the soil, as detailed in bulletin 49 of this Experiment Station.

Recently I have been called to investigate two outbreaks of cattle poisoning, one occurring near Topeka, where five head were found dead within fifteen hours, and the other near Silver Lake, where four yearlings died, one during one night, and three during the next night. There were no signs of struggling in either outbreak. The animals were in an easy, natural position, apparently having just "laid down and died." No evidence of pain or disease; nothing but death. Near Topeka several were observed sick. There were no marked signs of sickness. They lay down, and if driven up moved reluctantly, there being evidently great depression of the nervous system. There seemed to be a well marked "tired feeling," and those that were dead were literally "tired to death."

In both of these outbreaks, the animals were in good condition, and all the surroundings were such as they had been kept under all winter. Both of these outbreaks occurred about the middle of April, when plants were starting nicely, and both occurred in stock that was running in fields and probably "picked" something in addition to their regular feed. It seemed, therefore, that the animals had been poisoned by some plant which they had gotten in the field or pasture.

At the Topeka outbreak, the only plants that possessed, or that were reported to possess, poisonous properties were young cockle-burs (*Xanthium Canadense*). These were coming up in great numbers, and were about two inches high. I had heard reports of young cockle-burs poisoning hogs, but had never heard of their being injurious to cattle. It is very doubtful if young cockle-burs possess any poisonous properties whatever.

At the Silver Lake outbreak, in addition to the young cockle-burs, wild parsnips (*Ciuta maculata*) were found, and there were evidences that the green tops had been eaten by the cattle. It seems probable from the general surroundings that wild parsnips would also be found in the field where the Topeka outbreak occurred.

Other plants reported to be poisonous to stock, but not found at either place, are leaves of the buckeye (*Aesculus arguta*), Jimson weed (*Datura stramonium*), and "deadly nightshade."

Experiments are being made to determine how poisonous these plants may be, and whether they are more poisonous at one stage of growth than another. I should be very glad to hear from persons who have lost stock from poisoning, in order to get a full account of the symptoms.

Much that is learned in school appears to be dismissed from memory on the day of graduation and is never recalled or utilized, but its good influence lasts through life if it has helped to train the mind of the student in habits of close study, of logical reasoning, and of persevering effort to conquer difficulties. These are among the chief purposes of true education, for they help to develop the mind and strengthen character.—*Baltimore Sun*.

Lawn Making and Decoration.

If my paper on "Lawns" shall be the means of prompting one admirer of the beautiful and good to greater effort to make home more attractive, I shall consider myself well paid for my effort. If I can arouse a similar sentiment in the breasts of a great number, I shall be better rewarded.

No better proof of advanced civilization, no greater evidence of fine arts, can be produced than such careful attention to our home approaches as will make them most attractive. No better investment in a pecuniary sense can be made than a reasonable outlay of time and money in making the exteriors of our homes as attractive as the interiors. Tastes vary, sentiments differ as to styles of lawns and their decorations, yet all may be in accordance with such harmonious design as to present a pleasant effect. It may not be just to judge a man's character for industry by the condition of his premises, but we may determine the degree of his appreciation of refinement and his estimate of the value of substantial improvement by the condition of his lawn.

The old adage that "time is money" is not altogether true. Time is more than money, for money can never buy it. The estimate we place on a work that requires time to accomplish it is in accordance with the amount of time required in its construction. Lawns must grow, trees must be brought to beauty of form by such a system of training and such attention to their requirements as their individual conditions demand.

A proper construction of a successful lawn depends upon the beginning of the work. The nature of the material composing the soil, the depth of the soil, its conveniences for drainage are the materials on which depend the success of the enterprise. Having found or arranged these requisites, plow or spade deeply and level the surface. Roll the soil firmly and sow evenly with the seed of such grass as is desired. *Poa pratensis*, or blue grass, is recognized as most dense and persistent when established, and most admired for its color and tenacity. After sowing the seed, again roll or press the earth firmly on the surface without harrowing, leaving the surface firm and smooth. I am particular in describing this preparatory part of the work, because I am convinced that many err in leaving the soil so loose as to cause the seed to germinate and perish before sending its roots into the earth.

If a light covering of leaf mould from the woods be added and an occasional watering be given, the preparatory work may be considered done. The proper time for sowing the seed of most hardy grasses is as early in the spring as it is possible to prepare the soil.

Plans for laying off grounds may be used as suggestive, but it must be remembered that the chief design of every lawn should be comfort and convenience to the occupants of the premises, with such arrangement of its decorations as the owner's tastes may direct. Plant specimen trees designed for effect, with a view to the proper growth and development of these forms. Plant hedges and border with such low-growing trees or plants as will submit to pruning and density of growth. American Arbor Vitae may be used where a permanent screen or shelter is desired. *Pyrus Japonica*, or Japan Quince, makes a hardy, dense ornamental hedge, producing pretty rose or white-colored flowers in spring, bright glossy foliage throughout the summer, and golden-colored fruit in the autumn. Plant circular or semi-circular flower beds in portions of the lawn where they may be seen from the walks or roadways. These flower beds should be composed of such ever-blooming plants as verbenas, phloxes, pansies, and brightly colored geraniums. Do not mix roses and annuals in the same bed. I believe we may plant tea roses successfully in many locations in the latitude of Missouri. In such situations as open borders between rows of trees my tea roses have lived the past few winters and flourished, with no protection or covering except the falling leaves of evergreens and maples. Although frozen back within a few inches of the surface, these plants, left with nature's covering, have been better prepared for early blooming, more thrifty in growth and better prepared for the season's work than any potted plants I have tried.

I would not discard such grand old roses as hybrid perpetual Paul Neyron, with its immense rose-colored flowers and iron-clad vigor; the wonderful General Jacqueminot, with its beautiful crimson velvet color so difficult to describe but easy to remember; Lady Emily Peel, bright pink in bud, pure white in bloom. These and a long list of hardy, perpetual blooming sorts we may have in beauty of bloom and brightness of foliage through the greater part of the summer, and especially in the fall, and never apparently affected by old age.

Plant a few shade trees on the south, east and west sides of the house. Select young trees with straight trunks and trim the bodies as they grow from year to year until you have obtained a sufficient height to enable you to have unobstructed view below all branches. These few trees near the dwelling add comfort by cooling the atmosphere in summer and preventing the passage of high winds and dust.

If the lawn is large enough, plant a few shade trees of rapid growth, without regard to lines, in different portions of the ground. Trim by successive pruning to reasonable height in body.

Lawn grass flourishes best in partial shade. A better average of moisture is maintained among trees than in open space. A pretty effect is sometimes obtained by massing a few low-growing varieties of evergreens in clusters of three or four.

At the porch or veranda plant one vine of Ampel-

lopsis Quinquefolia, or hardy ivy. This will completely shade any ordinary-sized porch in a few years and remain a permanent summer shade for many years. These thoughts and plans are all suggestive only, on which you can improve.

We are told that there is nothing new under the sun. Yet every day and on every hand we see such wonderful reconstruction of the old material as to give the effect of refreshing novelty. There is, however, nothing really new in all this, for the nearer we approach perfection in plans for attractiveness in home surroundings, so much closer we have copied nature. There are those here this evening who have been familiar with the natural lawns of the great Western prairies.

These I call to witness whether in great Eastern cities or in any town or country where wealth and skill have done their best they have ever beheld anything to compare with the virgin lawns of the wild New West in their primitive beauty.

Perfect in color of green, the early spring covering grew as evenly as smoothest lawn mowing.

As the summer's sun grew brighter, beds of gaily colored flowers appeared of such rare beauty of form and color and fragrance and such harmony of arrangement as to convince us that nature's models are superior to man's most perfect copies.

Along the borders of these natural lawns grew deep, ornamental lines of native trees, their borders attractive in earliest spring with the bloom of the Judas or redbud tree contrasting in fine effect with the blossoms of many varieties of the wild plum, relieved by interspersed patches of the early horse chestnut.

Deer, buffalo, and elk were occupants of these native lawns. The Indian hunter was the owner by right of occupation of all this primal beauty. But utility and progress and ever-growing necessity have destroyed, but not effaced from memory, all this primitive beauty. Nature's works are our models. Beautiful impressions leave permanent influences for good, which others may copy and improve upon until every one who adds attractions to his home shall be considered a public benefactor.—C. J. Robards, before Missouri Horticultural Society.

Preserve the Trees on the Farm.

Farmer Hardscrabble is cutting down his orchard. The fruit is good for nothing, he says, except for cider, and that is an article he has little use for. And so the once pretty orchard is becoming a useless, worn out field.

The family was discussing the matter a few mornings ago, when Mrs. Hardscrabble ventured to remark, "I like apples both for eating and cooking, but the worth of the fruit is but a small part of the value of an apple tree to me. The children have probably spent more play time in the orchard than in any other field on the farm, and, being near the house, I sometimes had a little outing there myself. The trees were low, and drooped prettily over the large rocks which served for seats, making a comfortable resting place of a summer afternoon. And besides, I like to have the birds about the place. It is for your interest to keep them near your fields and gardens. The birds which have found homes in the trees which you have cut would have saved you more in a year as insect destroyers than the wood will be worth."

But this earnest plea amounted to nothing, and the women, children, and birds will be forced to find their pleasure elsewhere.

The first year that Farmer Hardscrabble lived on the place, he cut two noble oaks in the meadow not far from the house, giving as a reason, that the dry twigs dropped in the grass, making a bother at haying time. The second year, he turned a family of pigs into a small orchard near the house, allowing them to destroy two nice apple trees which hung full of the best fruit the year before.

To the credit of Farmer Hardscrabble, I will mention two cases in which he has shown leniency. At a short distance from the house stands a finely formed cherry tree. It is of no possible use as far as fruit is concerned, for the cherries are hard and sour, ripening late, if ever. "Christmas cherries," the farmer calls them. But out of regard to the wife's love for trees, this one has been allowed to stand, making a happy tenting ground for the robins and a "joy forever" to the hard-working wife.

Down the lane, in full sight from Mrs. Hardscrabble's sitting room windows, stands a large yellow willow, a veritable eyesore to the men folks, but a "thing of beauty" to this nature-loving woman. The pretty color which it keeps all through the winter when the surrounding landscape is drear and brown, its changing tints at the first intimation of spring, to say nothing of the many families of orioles reared within its leafy screen, are real pleasures to Mrs. Hardscrabble, as inexpensive as they are innocent.

Upon a neighboring farm, the owner cut the top from a noble oak last winter, which had been the friend and playmate of every child in the neighborhood, for several generations. It was known far and near as the "big oak," and probably no person living remembers when it was one whit less beautiful. But there stands its mutilated body today, a monument of its owner's thick headedness.

He also felled a grand old elm which stood in full view from my window. I wondered what right he had to do it, and felt like adding my complaint to that of the poor cattle that were wont to stand beneath its shade.

People will, of course, do what they choose with their own, but I wish it was possible to make it a state's prison offence to needlessly cut a noble tree. The laws will not allow a man to set fire to his own

property. Why should there be such a difference made in the kind of tool used for destruction, whether axe or torch?—Correspondent in Our Grange Homes.

Careless Tenant Farming.

A friend who has been off the farm for a year or two on account of ill health, but who this spring returns to it, writes that he finds himself much improved by the change, and that it seems "so good" to again get to work in the ground; but he adds that he has in the interval had two tenants in whom he was deceived. They were very poor farmers, and since his return he has cut horse weeds ten feet high and an inch and a half through at the butt, and that the front yard was in a horrible condition. We sympathize with our friend, for we know him to be a man who finds comfort and a good portion of his enjoyment of life in beautiful surroundings, which of course include a farm free from weeds, clean fence corners, and a well kept lawn.

It may be, however, that the tenants who deceived him are not such poor farmers as the condition he describes would indicate, but instead merely took a wrong view of things. We are not to be surprised if men are influenced by what they conceive to be their own interests. Selfishness carried to excess is a vice, but after all the progress of the world is simply the sum of the extent to which each man looks after himself. It is the motive for improvement of conditions, and is the one insuperable obstacle which socialistic and communal schemes, however well they may seem to have been thought out, have never been able to overcome. The tenants in question, although they farmed badly, perhaps permitted things to run down more because they were unable to see anything for themselves in keeping them up than because they were bad farmers. We are satisfied that this kind of farming is mistaken selfishness. It destroys both character and reputation—character, because no man who once pursues the course described is ever likely to be quite so good a man again, and reputation, because no one who knows of it is ever likely to trust him again. There might seem to be a temporary gain in doing no more than was necessary to harvest a scanty crop, but in the end there is loss. Good culture would have made a better crop, and good care of the place would have made it easier for the tenant to get another. The course described destroys credit, and credit prudently used is no bad substitute for capital. It destroys credit because it raises suspicion in the minds of others, both as to honesty and capacity. There is no dishonor in being a tenant farmer. There is honor in being a good tenant farmer. There is honor in filling any position in life well, for the words of the poet are and always will be true:

Honor and fame from no condition rise;
Act well your part, there all the honor lies.

Live Stock Indicator.

Cultivate the Man.

It is legitimate and proper that the cultivation of the soil should command attention and be discussed. It is an important theme because from the bosom of the soil must come products to supply the wants of man. But the greater and grander theme, worthy of the maturest consideration, is the culture of the man. He is greater than the soil.

The patient, plodding mule that slowly pulls the plowshare through the soil may be content after his day's labor to eat his food supplied him and rest in his stall with no higher ambition to animate him. Even he, however, requires training for his work and care for the preservation of his physical vigor and health.

The culture of man involves the judicious blending of physical, moral, and intellectual education. As a general rule, the possession of a brilliant intellect, adequate for great achievements, does not adhere to an inadequate body. While investigating the mysteries and principles of science, the abstruse dogmas of philosophy, and the laws that govern the planetary system, the student should not forget to learn something of the laws of nature as connected with his own corporal system.

Unless we labor, the body can never enjoy its full amount of health and vigor. Employment gives enjoyment. Physical culture makes more effective mental and moral attainments. The value of health is a strong reason for physical culture.

The farm has been the school house for the leaders in thought, in moral and philanthropic effort, and in achievements for the benefit of humanity. Perpetuate and strengthen its teachings. Its destruction will prove a death-blow to progress and a menace to the perpetuation of good government.—Southern Cultivator.

The Study of Flowers.

If there could be a course of instruction in horticulture in our common schools in connection with the study of botany, and practical demonstration made in growing hardy plants so that the pupils could get an idea of the composition of soils, the chemical constituents of plant food, botany and chemistry would not seem so dry to the average boy or girl. If this practical knowledge could be acquired in youth, much valuable time would be saved, and our young girls would be cultivating as well as wearing roses. The woman with a yard that needs adorning, and who comprehends the possibilities of flowers, has great happiness within her grasp. An old plain house may be made beautiful with climbing roses and the innumerable ornamental vines offered by the growers. A shaded nook may be converted into a fernery, and the stiff fence lines be concealed by the shrubbery and perennials our grandmothers loved so well.—Philadelphia Ledger.

* Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.

1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Olathe, Kan.

GENERAL LOCAL NOTES.

Cora Lyon of Clay Center is visiting with College friends to day.

The Alumni Association has a business meeting on Tuesday evening.

Prof. Georgeson made a flying trip to his Missouri farm the first of the week.

Mrs. Kedzie's name appears twice on the program of the Ottawa Chautauqua.

Dave Griffith and Fred McCord of Riley visited O. E. Noble, Junior, Thursday.

May basketing and hammock parties occupy the time of some students between showers.

Miss Rose Robertson of Russell visited College on Wednesday in company of Miss McKeen.

C. F. Brown, an Osage county teacher, is visiting with his cousins, Maggie and W. R. Correll.

Messrs. Wareham & Wood have added the College list of 'phones to their new card, just issued.

Owing to the daily rains this week, the battalion drilled but two days, Tuesday and Saturday.

Many of the strawberries on the Manhattan market are from Prof. Georgeson's farm in the Ozarks.

Ex-Regent Hessian is proposed by the Manhattan *Nationalist* as a suitable candidate for State Senator.

Miss Rupp and Miss Harper will entertain the Faculty this evening at the home of Mr. J. R. Young.

The base ball game of Monday resulted in a victory for the Seniors and Sophomores, score 11 to 12.

Professors Olin and Will were two of the judges in the oratorical contest at St. Marys College on Wednesday.

Miss Kimball is at her desk in the Entomological Department after an absence of several days on account of tonsilitis.

Capt. Cavenaugh will move next week into his new quarters at Mr. Haines', corner of Juliette Avenue and Leavenworth Street.

The dinner on Commencement Day will be furnished by the ladies of the M. E. Church, who are making preparations for feeding a multitude.

W. H. Ellis of Miami county returned to First-year classes Tuesday, after the death of his father, whose illness had been protracted through several years.

Regent Hoffman, Prof. Georgeson, and Prof. Hood will represent the College at the Annual School Board Convention and Farmers' Institute to be held at Abilene, May 23rd.

Among the chapel visitors today were Mesdames Winne, Allingham, Ione Dewey-Earle, and Misses Nellie Burtner, Laura and Lena Engel, Etta Smith, Ida Walters, and Mary Wilkin.

Prof. and Mrs. Georgeson invited a few friends Wednesday evening to meet Rev. and Mrs. Brooke of Clinton, Mo. Mr. Brooke was rector of the Manhattan Episcopal Church several years ago.

Ten Ionians braved the storm and visited the home of a fellow member, Miss Swingle, on Saturday afternoon last, eating lunch on a porch instead of on the grassy bank of the Wildcat, as had been planned.

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until 1873. He was again made a member of the Board in 1888, serving until 1891, when he was re-appointed, his last term of office expiring in 1894.

His simple life, his sterling character, his natural ability, his keen perception, his ready wit, his droll humor, made for him friends wherever he was known, and many a heart aches that he is no more.

President Fairchild leaves this afternoon to attend and assist in the funeral services.

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* Calendar.

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 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.

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To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Olathe, Kan.

GENERAL LOCAL NOTES.

Cora Lyon of Clay Center is visiting with College friends to day.

The Alumni Association has a business meeting on Tuesday evening.

Prof. Georgeson made a flying trip to his Missouri farm the first of the week.

Mrs. Kedzie's name appears twice on the program of the Ottawa Chautauqua.

Dave Griffith and Fred McCord of Riley visited O. E. Noble, Junior, Thursday.

May basketing and hammock parties occupy the time of some students between showers.

Miss Rose Robertson of Russell visited College on Wednesday in company of Miss McKeen.

C. F. Brown, an Osage county teacher, is visiting with his cousins, Maggie and W. R. Correll.

Messrs. Wareham & Wood have added the College list of 'phones to their new card, just issued.

Owing to the daily rains this week, the battalion drilled but two days, Tuesday and Saturday.

Many of the strawberries on the Manhattan market are from Prof. Georgeson's farm in the Ozarks.

Ex-Regent Hessian is proposed by the Manhattan *Nationalist* as a suitable candidate for State Senator.

Miss Rupp and Miss Harper will entertain the Faculty this evening at the home of Mr. J. R. Young.

The base ball game of Monday resulted in a victory for the Seniors and Sophomores, score 11 to 12.

Professors Olin and Will were two of the judges in the oratorical contest at St. Marys College on Wednesday.

Miss Kimball is at her desk in the Entomological Department after an absence of several days on account of tonsilitis.

Capt. Cavenaugh will move next week into his new quarters at Mr. Haines', corner of Juliette Avenue and Leavenworth Street.

The dinner on Commencement Day will be furnished by the ladies of the M. E. Church, who are making preparations for feeding a multitude.

W. H. Ellis of Miami county returned to First-year classes Tuesday, after the death of his father, whose illness had been protracted through several years.

Regent Hoffman, Prof. Georgeson, and Prof. Hood will represent the College at the Annual School Board Convention and Farmers' Institute to be held at Abilene, May 23rd.

Among the chapel visitors today were Mesdames Winne, Allingham, Ione Dewey-Earle, and Misses Nellie Burtner, Laura and Lena Engel, Etta Smith, Ida Walters, and Mary Wilkin.

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establishes a language, and aids us in learning what others are doing, thus advancing our civilization. It is through literature that we study of the past. Politics is filled with corruption. Bribery is common among office-seekers, and appointments are made with a political end in view. T. J. Habiger, continuing on the affirmative, spoke of man's advancement before the establishment of literature. Politics is the cornerstone of literature. The novel is one of the greatest forms of corruption that we find. E. W. Bidwell, on the negative, said, what would politics do without literature? Literature brings out the bright side; and if it is corrupt, what of politics? We send missionaries with the Bible, not politicians, to civilize the Africans. The success of the public speaker depends upon literature. S. Dolby, in closing, said education amounts to nothing unless we apply it; politics applies it. Our schools, not our literature, build up our language. B. R. Hull, in closing the negative, gave the beginning of literature at the beginning of mankind. If it were not for literature, we would not know of the passage of our own laws. Literature aided in freeing the slaves. Corrupt literature affects only those who read it, while corrupt politics affects us all. The Society gave a decision in favor of the negative. Z. D. E. Brown declaimed in a forcible manner "The Life Boat." L. P. Keeler, as music committee, introduced C. Payne and L. V. Putnam, who rendered a cornet duet, responding to an encore with a vocal duet. "Anecdote of a Dog" was read by John Lee. After transacting the necessary business, the remainder of the evening was taken up by extemporaneous speaking. J. E. T.

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Promptly at eight o'clock, the Hamiltons came to order at the call of President Pincomb. Prayer by G. W. Finley. Joe Reyburn was initiated. The program was opened by the debate on the question, "Resolved, that the political parties of the United States are not working for the best interests of the nation." The affirmative was upheld by B. F. Durant and A. D. Whipple. The definition of a party showed that the purpose is to further the interests of the Nation, but this is an ideal which is never realized. Parties are formed for personal interests, and then some national measure is found to work upon. The work of parties is done principally by committees, and the committeemen are nearly always notorious, or of questionable character. When a party becomes strong, the leaders often nominate a bad man who gets office on the party's good reputation. Parties seek to promote a class. The Nation has been prosperous and carried over the roughest places by casting party ideas aside, as was the case during the Revolution, the Era of Good Feeling, and the Civil War. If one party works for a good measure and another opposes such a measure, it surely is working against the interest of the Nation. The newspaper is also affected by party prejudice, causing its columns to be filled with slander. The negative, W. Anderson and F. Yeoman, maintained that it was necessary to have a strong organization, and the appointment of committees promotes this. Most of the business of the Nation is done by committees. Many of the great measures which have been of inestimable benefit to the country were party measures. Such were the acts relating to protective tariff, the United States and national banks, the Pacific railway, etc. The only way a party can live is by promoting the best interests of the nation. If the party were ruled out, there would be nobody to look after the interests of the country. One party tends to purify the other. The Society decided in favor of the affirmative. The essay by A. T. Kinsley, "Fifty Years Hence," was a unique production. An interesting forecast was made concerning improvements in college life by the use of electricity for more practical purposes. A. C. Smith's oration on, "Should Money Have Commodity Value?" showed careful preparation. He held that paper money most always depreciated. It is necessary that money have commodity value in order to exchange with foreign countries. Every dollar stamp, whether on metal or paper, should have under it or behind it a dollar's worth of metal. After disposing of some unfinished and new business, the Society adjourned. V. M.

May 9th.

President Spalding called the Alpha Beta Society to order. The program was opened with a vocal quartette by Messrs. Clothier, Frowe, Peck, and Newell. This received an encore, to which they responded with a humorous song. Mr. Westgate led in prayer, after which Miss Elva Palmer and Mr. Clothier sang a duet, Miss Gilkerson accompanying on the piano. Miss Monroe then gave a select reading entitled, "A North Pole Romance." A declamation, "The High Tide on the Coast of Lincolnshire," was well rendered by Josephine Wilder. The question, "Should Political Questions be Carried into the Pulpit?" was affirmed by Inez Manchester and Mr. Dye, and denied by Miss Streeter and Mr. Tannehill. The affirmative argued that we should not attempt to separate the political world from the religious world; that it is not true to man's nature that they should be separated. If a political question is not fit to be discussed in the pulpit, it is not fit to be discussed from the political platform. Ministers are competent to judge wisely on political questions, and by discussing them may exert good influence over their uneducated hearers. Political questions will not corrupt the pulpit. The negative argued that political questions, if brought into the pulpit, will cause disputes, and may even break up a congregation. The minister's mission is to preach the gospel, not politics; to minister to the spiritual nature. He must not put himself on a level with the campaign speaker if he would retain his power for good. The Society decided in favor of the negative. The debate was followed by a banjo duet by Misses Secret and Cotton. In response to an encore, they sang, "Listen

to the Mocking Bird." The Gleaner was read by Miss Ridenour. Its motto was, "Still Waters Run Deep." After recess, the Society was entertained with a vocal duet by Inez Palmer and Marian Gilkerson. Roll call showed a decided increase in attendance. Under extemporaneous speaking, Mr. Hulett told of a few of the object lessons to be drawn from a morning walk. Mrs. Folsom spoke of the Social Science Organization, its history and work. Miss Reed discussed the recent trouble in the M. E. Conference at Cleveland, O.; Miss Macauley, the art of hanging May baskets; and Mr. Rader presented some thoughts on the art of speaking. The business session, occupying the remainder of the time, was a lively one. G. D.

The Deadly Microbe.

And now it is the finger nails we are to look under for a hiding place for microbes, and that gives us something more to consider in caring for them than mere beauty or attractiveness.

Beneath them is a space which forms a nidus, or resting place for bacteria. Bacteriologists have found a score or more of different kinds of organisms under the nails, many of them harmless, it is true, but some of them exceedingly dangerous to health and life. Since they are microscopic in size, no one can tell whether they are innocent or harmful, or, indeed whether they are present or absent.

Many instances are recorded where a slight wound, like the prick of a needle under the nail, has been the means of introducing the germs which cause that painful trouble known as whitlow, or felon.

Since a pin prick suffices to convey into the human system enough of the most poisonous germs of disease to cause death, it is easy to understand that evil results may follow a scratch with a germ-laden fingernail. An idea has gone abroad that the danger lies in being scratched by another person; but since the trouble is due to bacteria and not to any poison residing in the nail itself, it is easy to see that a self-inflicted scratch may be as bad as any other.

He who bites the finger nails takes the risk of getting into his mouth and swallowing the germs of some infectious disease, for bacteria may be anywhere, and the nails have a peculiar aptitude for scraping up particles of dust and dirt, which may be swarming with germs. The surgeon who goes through the performance of any cutting operation, realizing the danger which lurks beneath the nails, cleanses them in the most thorough manner.

Disease germs, once introduced into the human organism, become travellers. They do not stop at the point of infection, but once in the circulation, may go anywhere and live even for years waiting their opportunity for growth when the normal tone of the system is lowered by chill, by fatigue, or some other disturbing cause.

There is no better method of cleaning the nails than with a good brush and plenty of soap and water, and without the use of a brush it is impossible to have clean nails. Not alone will the result obtained be pleasing to the eye, but the danger of becoming the bearer of disease to one's self is thereby lessened.—*Farm, Field, and Fireside*.

To Struggling Young Men.

Take care of yourself; nobody will take care of you. Your help will not come up two, or three, or four flights; your help will not come through the roof, down from that God who, in the six thousand years of the world's history, never betrayed a young man who tried to be good and a Christian. Let me say in regard to your adverse worldly circumstances that you are on a level now with those who are finally to succeed. Mark my words, and think of it thirty years from now. You will find that those who thirty years from now, are the millionaires of the country, who are the poets of the country, who are strong merchants of the country, who are the great philanthropists of the country—mightiest in church and state—are now on a level with you, not an inch above, and with you in straitened circumstances now. Herchel earned his living by playing a violin at parties, and in the intervals of his playing he would go out and look up at the midnight heavens, the field of his immortal conquest. George Stephenson rose from being the foreman of a colliery to be the most renowned of the world's engineers.

No outfit, no capital to start with! Young man, go down to the library and get some books, and read of what wonderful mechanism God gave you in your hand, in your foot, in your eye, and in your ear; and never again commit the blasphemy of saying you have no capital to start with. Equipped! Why, the poorest young man is equipped as only the God of the whole universe could afford to equip him.—*Talmage*.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

A Good Education Pays.

1. In dollars and cents. All testimony of statistics agrees in showing that educated laborers of all ranks have better work and better wages than the uneducated.

2. In influence and position. Careful estimates make it certain that the chances of promotion to places of trust and power among men are almost two hundred times as great to an educated man as to the uneducated man.

3. In usefulness. The bulk of good work in the world—discovery, invention, government, philanthropy, and religion—is brought about by those who learn to think by study.

4. In enjoyment. Our pleasures grow out of what we are ourselves more than from surroundings. A well-trained man sees, hears, and handles a great deal more of the world than an untrained one. All things do him more good, not so much because he owns them as because he understands them. He always has good things to think about.

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The INDUSTRIALIST may be addressed through Pres. Geo. T.

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Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

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The Experiment Station should be addressed through the Secretary.

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SOME OF THE DIFFICULTIES OF ACCURATE EXPERIMENTATION.

BY PROF. J. T. WILLARD.

MAN'S knowledge of nature and her laws is the result of observation, primarily of the phenomena occurring spontaneously, but chiefly of phenomena excited or guided by human intelligence. The fewer the factors, and the simpler their action, the more easily correct conclusions are reached. None of nature's so-called laws can be affirmed with the assurance that accompanies a mathematical demonstration. When certain consequences follow certain antecedents a number of times, we suspect that they are connected as cause and effect, and our suspicion grows to conviction if in a large number of instances the given antecedents always precede the observed consequences. The greater the number of instances observed, and the more perfectly all other antecedents are eliminated, the higher our degree of certainty. Thus, if one releases an object in mid-air, he confidently expects it to drop to earth, because he has always seen things act that way. Nevertheless, he cannot make an assertion in accordance with that expectation with the absolute certainty that he can say that two times two are four. Indeed, if he fail to realize that his object is in mid-air, and that air is a mobile substance which is pressing upon all things in it, he may be much surprised on releasing a balloon full of hydrogen to see it rise cloud-ward instead of sink earth-ward.

In an experiment of this kind very few factors are active, and they are easily ascertained and measured; so it is with many of the simpler experiments of physics and chemistry. But most experiments in these sciences are more complex, and often require measurements of variations in pressure, temperature, and humidity. The presence or absence of air; the influence of relatively small amounts of impurities; even the composition and the physical conditions of the containing vessels, is of great influence sometimes. The surprises that a few flasks, tubes, stoppers, and a Bunsen burner can give intelligent but inexperienced people can be appreciated only by those who have been through it. Yet such things are simple compared with the problems of organic nature.

Physics and chemistry are the fundamental sciences, dealing as they do with the elementary properties of matter, the various forms of energy, and the relations between them all. Upon these principles all explanation of the unconscious processes of organized beings must rest. A succession of phenomena in plant growth, for example, may be observed with great exactitude, but it cannot be regarded as at all nearly explained until the phenomena have been analyzed and their utmost elements found in the fundamental chemical and physical interactions. The same is true to a large extent of animal processes. Here, however, in the higher animals, we reach the impenetrable mystery of consciousness, which defies analysis or reduction.

The difference between simple manifestations of chemical and physical forces, and those which are seen in plants and animals is much like the difference between the elementary mechanical powers and a machine. One can easily see the action of a belt upon a pulley, of one wheel upon another, of a lever or cam, if the motion is slow enough; but let them be combined in a machine, parts of which may be running with great rapidity, and the problem becomes a very different one. The complexity of the action of very simple vegetable organisms is probably not less than that of a machine which cuts, threshes, and sacks a field of grain. If, now, the harvester were removed to a distance so great as to render it invisible except by the aid of a powerful telescope, the problem of ascertaining the mode of action of that machine in converting standing wheat into straw, stubble, chaff, and clean grain in sacks, would be very much like the problem of ascertaining, for example, how yeast transforms sugar into alcohol, carbon dioxide, etc.

If one of the simplest plants presents such difficulties, how much more impossible is it to disentangle the composite action of the bewildering complexity of numerous different interpenetrating tissues of which the higher plants and animals consist. If we add to this, effects growing directly and indirectly from consciousness, we may realize the magnitude of the higher problems of biological research.

All this has a direct bearing upon agricultural investigation. Our knowledge of the effects of the

principal nutritive constituents of a soil upon plants growing therein is very meager. In the case of certain substances, we do not even know whether they are essential or not. We are practically ignorant of the effect of some substances found in small quantities in plants. It has been shown that in the case of certain of the lower plants some antiseptics which in small quantity kill the organisms, in very minute quantity act as stimulants to their growth. With such paradoxical facts before us, can we assert that we have complete knowledge in respect to the action of a single constituent of soils upon the vegetation which it supports? It is highly probable that plants differ in their physiological deportment under the influence of a certain fertilizer, and that conclusions drawn from experiments upon one species may not be true if applied to other species or especially to other genera. The soil is a heterogeneous mixture, no two square rods of which on the face of the earth, in all probability, are exactly alike. The difficulty, therefore, of exact experimentation in growing crops on natural soil is so great that probably they will never be surmounted with such success as satisfies the minds of chemists, trained as they are to extreme sensitiveness to quantitative relations.

THE UNITED STATES DEMAND NOTES.

OF 1861 AND 1862.

BY PROF. THOS. E. WILL.

A CORRESPONDENT, referring to the INDUSTRIALIST article for December 7, 1895, entitled "Must the Greenback Go?" desires a brief history of the demand notes issued under the acts of July 17, 1861, and February 12, 1862, and asks the following questions: "Were they a full legal tender? Did they have any legal tender quality when first issued? Were they in form payable on demand in coin? Did they go to par with coin during the war?"

Thinking that other students of monetary history, as well as our correspondent, may be interested in the subject suggested, the attempt will be made to answer these questions as fully and fairly as may be from the documents and from the testimonies of conservative authorities.

The act, approved July 17, 1861, entitled "An Act to authorize a National Loan, and for other Purposes," contains the following language: "And the Secretary of the Treasury may also issue in exchange for coin, and as part of the above loan [of 250 million dollars], or may pay for salaries or other dues from the United States, treasury notes of a less denomination than fifty dollars, not bearing interest, but payable on demand by the Assistant Treasurers of the United States at Philadelphia, New York, or Boston, or treasury notes bearing interest at the rate of three and sixty-five hundredths per centum, payable in one year from date, and exchangeable at any time for treasury notes for fifty dollars, and upwards, issuable under the authority of this act, and bearing interest as specified above: *Provided*, That no exchange of such notes in any less amount than one hundred dollars shall be made at any one time: *And provided further*, That no treasury notes shall be issued of a less denomination than ten dollars, and that the whole amount of treasury notes, not bearing interest, issued under the authority of this act, shall not exceed fifty millions of dollars."

Section 7 of the same act reads: "And be it further enacted, That the Secretary of the Treasury is hereby authorized, whenever he shall deem it expedient, to issue in exchange for coin, or in payment for public dues, treasury notes of any of the denominations hereinbefore specified, bearing interest not exceeding six per centum per annum, and payable at any time not exceeding twelve months from date, provided that the amount of notes so issued, or paid, shall at no time exceed twenty millions of dollars." [12 Statutes at Large, 259.] On page 91 of Knox's U. S. Notes may be found the form of the Ten Dollar Note, "being the first Demand Note ever issued by the United States, Act July 17, 1861." It reads as follows:

"Washington, August 10th, 1861. Act of July 17, 1861. On demand, the United States Promises to Pay to the Bearer Ten Dollars."

In the lower left corner are the words, "Payable by the Asst. Treasurer of the U. S. at Philada;" and at the bottom, "Receivable in Payment of all Public Dues." The note also bears on its face the portrait of Lincoln, a vignette, and signatures for the Register of the Treasury and for the Treasurer of the United States.

Following this act is the act of August 5, 1861, en-

titled "An Act supplementary to an Act entitled 'An Act to authorize a National Loan, and for other Purposes.'" Section 3 provides that the lowest denomination of treasury note shall be five instead of ten dollars. Section 5 provides that "the treasury notes authorized by the act to which this is supplementary, of a less denomination than fifty dollars, payable on demand without interest, and not exceeding in amount the sum of fifty millions of dollars, shall be receivable in payment of public dues." [12 Statutes at Large, 313.]

The act approved February 12, 1862, entitled "An Act to authorize an additional Issue of United States Notes," provides "That the Secretary of the Treasury, in addition to the fifty millions of notes payable on demand of denominations not less than five dollars, heretofore authorized by the acts of July seventeenth and August fifth, eighteen hundred and sixty-one, be, and he is hereby, authorized to issue like notes, and for like purposes, to the amount of ten millions of dollars, and said notes shall be deemed part of the loan of two hundred and fifty millions of dollars authorized by said acts." [12 Statutes at Large, 338.]

Shortly after this comes the Legal Tender Act, approved February 22, 1862, and entitled, "An Act to authorize the issue of United States Notes, and for the Redemption or Funding thereof, and for Funding the Floating Debt of the United States." Since demand notes and legal tenders are sometimes confused, I quote the following from the first section of the act: "Be it enacted, * * * That the Secretary of the Treasury is hereby authorized to issue, on the credit of the United States, one hundred and fifty millions of dollars of United States notes, not bearing interest, payable to bearer, at the Treasury of the United States, and of such denominations as he may deem expedient, not less than five dollars each, Provided, however, that fifty millions of said notes shall be in lieu of the demand treasury notes authorized to be issued by the act of July seventeen, eighteen hundred and sixty-one; which said demand notes shall be taken up as rapidly as practicable, and the notes herein provided for substituted for them: And provided further, that the amount of the two kinds of notes together shall at no time exceed the sum of one hundred and fifty millions of dollars, and such notes herein authorized shall be receivable in payment of all taxes, internal duties, excises, debts, and demands of every kind due the United States, except duties on imports; and of all claims and demands against the United States of every kind whatsoever, except for interest upon bonds and notes, which shall be paid in coin, and shall also be lawful money and a legal tender in the payment of all debts, public and private, within the United States, except duties on imports and interest as aforesaid." [12 Statutes at Large, 345.]

On March 17, 1862, the President approved an act making the demand notes a legal tender. The wording of Section 2 of this act is as follows: "And be it further enacted, That the demand notes authorized by the act of July seventeenth, eighteen hundred and sixty-one, and by the act of February twelfth, eighteen hundred and sixty-two, shall, in addition to being receivable in payment of duties on imports, be receivable, and shall be lawful money and a legal tender, in like manner, and for the same purposes, and to the same extent, as the notes authorized by" the act of February 25, 1862. [12 Statutes at Large, 370.]

In the preceding, the answers to the first three questions may be found. Lastly, did the notes go to par with coin during the war?

Knox says,¹ "At a meeting of the associated banks in the City of New York, in January, 1862, it was resolved, 'That before we receive such notes, we must require that such legal provision be made by Congress as shall insure their speedy redemption, and that a committee of the association be appointed to consider the subject and report on it at an adjourned meeting.' The notes were receivable for duties, and soon obtained good credit. After the suspension of specie payment, efforts were made to retire them as rapidly as possible, for, as they were receivable for duties, they embarrassed the Government in providing for the gold interest upon the public debt. On July 1, 1863, more than fifty-six millions had been retired, and a much larger amount of legal tender notes had been placed in circulation. The demand notes were not, by the terms of the law, made payable in gold, but as they were authorized prior to the suspension of specie payment, and proclaimed as payable in coin by the circular of the Secretary, they were considered so payable, and, after the suspension of specie payment, were quoted at times at about the same premium for legal tender notes as gold."

¹ United States Notes, page 90.

The following quotations are taken from Knox, page 97:—

Years and Months.	Demand Notes.	Gold.
1862.		
February 5.		102 $\frac{1}{2}$
March 1.		102
April 1.	100%	103 $\frac{3}{8}$
May 10.	101	104 $\frac{1}{8}$
June 7.	105 $\frac{1}{4}$	109 $\frac{1}{8}$
July 5.	105 $\frac{1}{4}$	115 $\frac{1}{4}$
August 2.	108	119 $\frac{1}{4}$
September 6.	122 $\frac{5}{8}$	123
October 4.	126 $\frac{1}{2}$	131 $\frac{1}{4}$
November 1.	125	132
December 6.		
1863.		
January 3.	129	134 $\frac{1}{2}$
February 7.	155	157 $\frac{1}{8}$
March 7.	153	155 $\frac{1}{2}$
April 4.		155 $\frac{1}{4}$

"On June 7th, 1862, the Secretary addressed letters to the chairmen of the Committee of Ways and Means of the House, and the Finance Committee of the Senate, recommending a further issue of 150 millions of dollars of legal-tender notes. He said that nearly the whole issue of sixty millions in demand notes was held by bankers and capitalists, and was at a premium of $\frac{3}{4}$ to $1\frac{1}{4}$ per cent. on account of its availability for the payment of duties."² Bolles³ testifies as follows: "The \$50,000,000 in demand-notes authorized in July could be used in payment for duties, and also the \$10,000,000, issued on the following February; but the \$150,000,000 of legal-tender notes could not thus be employed. Consequently the first two issues had a special value, and in July, 1862, \$50,000,000 were outstanding. There was another important privilege attached to these issues, or 'old demand-notes,' as they were called. They could be funded into twenty-year, six-per-cent bonds, which were worth par, in specie, at the time the legal-tender bill we are now describing [the act of Feb. 25th, 1862] was under consideration."

In closing, I re-quote the statement of the *Wall Street News*:⁴ "It is not generally known that \$10,000,000 in greenbacks of the laws of July 17, 1861; February 12, 1862, and March 17, 1862, making these notes, then called 'demand notes,' a full legal tender for all debts, public and private, passed through the war and remained at par with gold during all that time, even when gold commanded a premium of 185 $\frac{1}{2}$ in July, 1864. This fact is an important lesson in the finances of the United States, as the full legal-tender attribute gave these notes a premium of the mentioned sum over the ordinary United States notes, merely because the ordinary United States notes were not a legal-tender for interest and duties. Gold at no time in our history was worth more than these demand notes."

Reads to Save.

"I study advertisements, and I know where and when and how to purchase the household supplies. My husband used to laugh at me for reading advertisements so carefully, but he has long since learned that I save many dollars every month. I know of no better way to practice economy, and do you know that it is a wonder how soon you learn to detect the real from the false, intuitively, almost? I do not think I have ever been 'taken in' by an advertisement; there is always something about the false ones that repels me. You hear a great deal nowadays about the 'practical pages' of magazines and newspapers, but for me the practical pages are those containing the business announcements of reputable business houses. The housekeeper who takes advantage of the practical hints in those pages shows a great deal more common sense than does the one who tries to furnish a seven-room cottage with a lot of soap boxes covered with denim worked in fancy stitch, and to feed her ever-growing family with never-ending reminiscences of the meal that went before. To the economical housekeeper, the advertisements are the most important part of any publication."—*Womankind*.

Agricultural Education.

The status of agricultural education in the United States is given an extended review in the forthcoming year book of the Agricultural Department at Washington. It shows that there are 65 institutions in operation under the provisions of the acts of July 2, 1862, and August 30, 1890. Sixty of these maintain courses in agriculture. In 14 States separate institutions are provided for white and colored students. Special courses in dairying and other agricultural industries have been recently established at a few of the colleges. The value of additions to the equipment of these institutions during 1894 is estimated at \$1,415,485. Agricultural experiment stations are now in operation in all the States and Territories. Sub-stations have been established in several States. Exclusive of these the total number of stations is 55, of which 52 receive the appropriations provided for by law.

The station bulletins are now regularly dis-

² Knox, page 137.

³ Financial History of U. S., Vol. II, page 78.

⁴ See Public Opinion, Sept. 2, 1893, page 515.

tributed to 500,000 persons closely identified with agricultural interests.

The experiment stations are conducting a wide range of scientific research in laboratories and plant houses and an equal amount of practical experimenting in yards, stables, and dairies. Thirty stations are now studying problems relating to meteorology and climatic conditions; 43 are investigating soils; 20, drainage and irrigation; 39, conducting field experiments with fertilizers; 48, matters connected with the most important crops; 35, composition of feeding stuffs and digestion experiments; 25, soil and soilage; 37, methods of feeding; and 33, dairying.

Botanic studies occupy more or less of the attention of 27 stations, and horticulture 43, while several stations have begun operations in forestry.

About 320 experiment stations are in operation in the different countries of the world.—*Colman's Rural World*.

Education on the Farm.

Upon the matter of education, a distinguished man, General Francis A. Walker, the president of the Massachusetts Institute of Technology, has said, "No other place is so favorable for the education of the young as the moderate-sized farm. Here the child has a greater variety of object-teaching than can possibly occur in any other common form of home life. There is so much to see that instructs: crops grow, animals must be reared, so many natural laws and natural phenomena are related to the work and the business; the seasons have more significance than of mere heat and cold, and the weather means more than merely pleasant skies or gloomy days. In no other vocation can the child be so trained to habits of industry without detriment to his health or intelligence; no other is so well adapted to the sound education of intelligent and independent citizenship of the actually working portion of the population. The very large proportion of the men in this country who have become eminent in the various walks of life, who have originated on farms and received their early training there, is the natural result of the influences of this vocation on education and intellectual development."

Labor and Earnings.

Every encouragement is given to habits of daily manual labor during the College course. Only one hour's daily practice in the industrial departments is required; but students are encouraged to make use of other opportunities for adding to their ability and means.

All labor at the College is under the direction of the superintendents of the department, and offers opportunities for increasing skill and efficiency. In regular weekly statements, the students are required to observe business forms and principles, showing from their daily account when and where the work was performed.

The shops and offices are opened afternoons and Saturdays for the accommodation of skilled students in work for their own advantage. Everywhere the student who works wins respect; and it is a matter of pride to earn one's way as far as possible.

The labor of the students in the industrial departments is principally a part of their education, and is not paid for unless the student is employed upon work for the profit of the College. Students are so employed upon the farm, in the gardens or the shops, and about the buildings. The labor is paid for at rates varying with the services rendered, from 8 to 10 cents an hour. The superintendents strive to adjust their work to the necessities of students and give them the preference in all tasks suitable for their employment. So far as practicable, the work of the shops and offices is turned to account for their benefit; and the increasing extent of the grounds and sample gardens brings more of such labor. The monthly pay roll for the past year ranges from \$250 to \$400.

Many students obtain work in the city or upon neighboring farms, and so pay part of their expenses. In these ways a few students are able to earn their way through College. The amount so earned will vary according to the tact and zeal of the student. The majority must expect to provide by earnings outside of term time, or from other sources, for the larger part of their expenses.

The long summer vacation of three months offers opportunity for farm or other remunerative labor; and no one need despair of gaining an education if he has the ability to use his chances well.

A Good Education Pays.

1. In dollars and cents. All testimony of statistics agrees in showing that educated laborers of all ranks have better work and better wages than the uneducated.

2. In influence and position. Careful estimates make it certain that the chances of promotion to places of trust and power among men are almost two hundred times as great to an educated man as to the uneducated man.

3. In usefulness. The bulk of good work in the world—discovery, invention, government, philanthropy, and religion—is brought about by those who learn to think by study.

4. In enjoyment. Our pleasures grow out of what we are ourselves more than from surroundings. A well-trained man sees, hears, and handles a great deal more of the world than an untrained one. All things do him more good, not so much because he owns them as because he understands them. He always has good things to think about.

Industrial Training.

Closely adjusted to the course of study is industrial training in several of the arts, to which each student is required to devote at least one hour a day. Among the lines of training each student may select, with the approval of the Faculty, except in terms when special industrials are required. Young men may have farming, gardening, and fruit growing, woodwork and ironwork, or printing. Young women may take cooking, sewing, printing, floriculture, or music.

All young men must have their industrials for one term in the carpenter shop before completing the first year; and during the spring term of the second and the fall term of the third year, upon the farm, garden, and orchards. Young women take their industrial for one term of the first year in sewing, and for the winter and spring terms of the second year in the kitchen laboratory and dairy.

Calendar.

1895-96.
 Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1895-97.
 Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

G. G. Boardman has left College to take up work on the farm.

Several of the graduates from the city school visit College today.

The copy for the Seniors' class-book has been sent to the publishers.

Superintendent Kyner, of Geary County, visited College Tuesday.

E. G. Gibson, Senior, visited in the vicinity of Stockdale, Monday.

The Farm Department offers for sale cheap a McCormick self-binder.

Grace Secret enjoyed a visit from a friend, Miss Stewart of Olsburg, this week.

Rev. Mr. Lowe, pastor of the Christian Church, attends the exercises this afternoon.

The Junior boys entertain the Junior girls at the home of Mrs. Caleb Smith this evening.

E. Emrick, Third-year, is chosen business manager of the *Students' Herald*, vice G. G. Boardman, resigned.

A special table for the Class, decorated in its colors, will be a feature of the Commencement dinner.

Mrs. Kedzie and Mrs. Mason entertain the Congregationalists in an ice cream social at the latter's home this evening.

Miss Sophia Smith, sister of Mrs. McCreary, returns today to her home in Dubuque, Iowa, after several months' visit in Manhattan.

R. M. Philbrook, Third-year, went to his home in Chepstow, Washington County, to help repair damages from the tornado of Sunday evening.

Elsie Crump, Brownie Faris, Martha Fox, Anna Hall, Bertha Spohr, and Miss Olson are among those who attend chapel exercises this afternoon.

The Ladies of the M. E. Church have decided to reduce the price of dinner on Commencement Day to the popular price of 25 cents. They should feed a multitude at that figure.

Students from the northeastern part of Johnson County are pleasantly surprised by a friend, R. W. Try, of the U. P. offices at Kansas City, who is visiting them for a few days.

Mrs. Carpenter, who has been staying with her daughter, Mrs. Mayo, for several months, is in Fort Collins, Colo., for a visit with her son, Prof. Carpenter, of the Agricultural College.

Commencement invitations to the number of 2,500 are issued this week, though ten thousand would not reach the friends whose presence we desire. They must come on this general invitation and share in the good things of the week.

President and Mrs. Fairchild are rejoicing in the birth of two grand-daughters—Mildred, second daughter of P. H. Fairchild, '86, at Passaic, N. J., May 8th; and Charlotte Rebecca, daughter of C. H. and Agnes Fairchild-Kirshner, at Kansas City, May 16th.

F. E. LaShelle, First-year, was called to his home in Chepstow, Washington County, on Wednesday to aid his father in gathering the remnants left by the storm of Sunday evening, which destroyed a barn, an orchard, and other property.

Dr. Allen briefly addressed the students Friday morning, calling the attention of the young men to the large and increasing demand for experts in agriculture, especially for those equipped by special study for the various lines of investigation.

Agnes Graham won honors in the role of "Mother Goose" at the city school exhibition last evening, and with the aid of others, including Ben Hood as "Mary's Little Lamb," kept the audience convulsed with laughter by the character presentation of melodies and nursery rhymes.

Dr. E. W. Allen, Assistant Director of the office of Experiment Stations, U. S. Department of Agriculture, spent two days at the College looking over the work of our Experiment Station. He expressed himself as well pleased with the work, past and present, and plans for the future, especially with the provision for permanent records of observations. He made some important suggestions for future consideration. He next visits the Nebraska Station at Lincoln.

The Fifth Division of the Third-year Class appear in chapel this afternoon with orations as follows: "Modes of Salutation," May Moore; "The Chicago Strike," R. H. Brown; "Success: What is it?" Gertrude Lyman; "Land Value Tax of Henry George," R. J. Peck; "Two Reformers," Florence Martin; "College Educated Farmers," M. Wheeler; "Is Life Worth Living?" Bertha Olson; "The Value of the Bicycle," A. C. Smith; "Duty," Hilda Olson; "Animal Adaptation," J. E. Trembley; "Enthusiasm in Our College," E. Shellenbaum. The music for the

occasion was furnished by the Cadet Band, and a Miss Helder and R. H. Brown in a piano duet.

The graduating exercises of the city schools were held at the opera house last evening. The program by the class of eleven members was interspersed with musical selections, including a class song with words by the Class and music by Ben Brown and Karl Hofer. The program:

The Typical American.....	Frank M. Atwell
Sources of Enlightenment.....	Florence Baker
The Physical Education of Girls.....	Ella M. Barnard
Two Views of a Specialist.....	Maude Currie
Should Cuba be Free?.....	Ben Brown, Edward W. House
The Development of our Country.....	Minnie M. Howell
The Mission of Music.....	Karl W. Hofer
The Newspaper.....	Elsie M. Robinson
A Plea for the Immigrant.....	Amelia Spohr
Flowers in History.....	Blanche E. Stump

That the "lost drawer" in the Secretary's office serves its purpose of gathering lost articles is shown by the following list of its present contents. That it may serve its other purpose of bringing these articles to their owners the Secretary requests the owners to meet him half way: Handkerchiefs, 171, table napkins 3, veils 2, lady's muff 1, necktie 1, wool mittens 22, dogskin mittens 2, buckskin mittens 1, thread gloves 3, dogskin gloves 2, ribbon bows 3, curling irons 3, tooth brush 1, scratchbooks 7, text books 5, silk muffler 1, fan 1, music-book 1, pocket books 2, pocket combs in case 4, looking glass 1, pencil erasers 9, pocket knives 26, lead pencils 12, pocket combs 2, side combs 2½, hair pins 2, pocket microscope 1, cuff buttons 5, pen holder 1, collar buttons 2 and 6 pieces, foot rule ¾, stick pins 13 and 3 pieces, C. E. pin 1, caps for fountain pen 2, belt pins 2, breast pin 1, keys 5, watch chain 1, watch chain bar 1, watch charm 1, fiddle bridge 1, book mark 1, coins 2.

GRADUATES AND FORMER STUDENTS.

W. H. Phipps, '95, is making use of the College library until his institute work begins at Junction City.

E. A. Gardiner, Third-year in 1893-4, has gone to Kirksville, Mo., to take a course of treatment in Osteopathy.

Nora Newell, '93, and Stella Kimball, '94, are chosen as teachers in the Model School of the Riley County Institute.

Mary E. Wilkin, Third-year in 1894-5, has gone to her home in Rooks county, after a year's teaching in the Manhattan schools.

Geo. Forsyth, '95, writes from Franklin, Ind., that he is looking after the interests of the Homer Steel Fence Co. of Homer, Mich.

Grace Wonsetler, '85, graduates June 3rd from Dana's Musical Institute, Warren, O. She sends an invitation to commencement exercises.

Helen Green, Second-year in 1891-2, sends an invitation from the Senior Class, of which she is a member, to the Commencement exercises of Bethany College, June 3rd.

D. G. Fairchild, '88, writes from Padana, Sumatra, under date of April 12th, that he was within three days' journey of his destination, Buitenzorg, Java, where he continues his botanical studies in investigations of tropical growth. He hopes to return to America next year.

W. T. Swingle, '90, assistant in the Division of Vegetable Pathology, United States Department of Agriculture, is joint author of a Government publication just issued, entitled, "Principal Diseases of Citrus Fruits in Florida," covering investigations by Mr. Swingle and Mr. Webber during a stay of three years in the orange belt.

George K. Thompson, '93, is given these endorsements for County Superintendent: "It has come to our notice that the Republicans of Marshall County are talking of George K. Thompson of Irving, for County Superintendent. They can do no better than this, go where they may. We have known George for a number of years, have worked with him in laboratory and class room while in College, and have always found him an upright, reliable, and brainy worker and student. Marshall County is to be congratulated on having such material to draw upon. Should he become the candidate of his party, he has hosts of outside friends who will take a vital interest in the Marshall County campaign.—*Scandia Journal*, Mr. Thompson's Manhattan friends are ready to vouch for the sense of this paragraph, since his relations to the Agricultural College for five years as student, and his work in the different departments during this time, has won for him the respect of his professors and made him many warm friends among students and public. George has a foundation that will make his work secure, and should he be successful in the cause that he has been urged to undertake, the people of Marshall County will find that he is not lacking in executive ability or good judgment, and will make for them an efficient and faithful officer.—*Nationalist*.

Visit of the Kansas City Commercial Club.

Fifty representative business men of Kansas City visited the College in a body this forenoon in company of a committee of city merchants and professional men. While the Cadet Band played strains gay, strains sentimental, strains patriotic, the visitors were in the reception room enjoying the hospitality of the College in the good things prepared by the Cooking Class. Later, they scattered over the grounds and through buildings under guides who explained, as well as they could in the brief time

allowed them, the work of the various departments visited.

The Club left Kansas City on Tuesday, stopping first at Centralia, visiting the important towns on the Central Branch Railway to Stockton, between Beloit and Salina on the Union Pacific, west to Colby, east to Rossville, thence home.

Joshua Wheeler's Funeral.

The death of Hon. Joshua Wheeler brings before the public, more than any event of his life has done, the importance of such a life. No one present at his funeral on the 17th of May could fail to realize how great a factor in society is the energy of one honest, intelligent, industrious farmer. Mr. Wheeler was not a man of commanding presence, position, education, or wealth, yet the whole State paid him homage, and men of every class felt honored to share in the last simple rites of burial in his own farm home.

The funeral was conducted by clergymen of his own faith, Seventh Day Baptist, Elder Dodds preaching a short sermon and Elder Cottrell reviewing the personal life of nearly seventy years. Following these usual exercises were short addresses in tribute to Mr. Wheeler's usefulness and favorable qualities, from a neighbor who had been with him since pioneer days; from the President of the State Agricultural College, of which he had been three times a Regent; from the President of the State Board of Agriculture, in which he had been for many years an energetic member, and from Ex-Secretary Ingalls, whose acquaintance with his public life in all particulars extended from pioneer days.

All the country round gathered in the procession to the cemetery, and he was laid in a grave decorated by loving neighbors, who will miss for years the hearty sympathy and genuine interest that made him a power for good in his own community and throughout the State.

Miss Harper and Miss Rupp Entertain.

The members of the Faculty, accompanied by their wives, spent Saturday evening, May 16th, at the residence of Mr. J. R. Young by invitation of Miss Harper and Miss Rupp, who a few days previous had issued cards with a pen and ink outline of a strawberry in the corner and bearing the enticing invitation, "Come, have one."

That newest of progressive games, "Salamagundi," was indulged in to the gratification of the winners and despair of the losers, or unlucky ones, as they prefer to be called, until, at ten o'clock, the tables were cleared of the various games only to be filled with a host of good things for which most if not all the Faculty have a weakness. In addition to the luscious strawberries, of which each "one" had the company of several dozen robust fellows, there was ice cream of the sort that sticks to as well as tickles the palate, and coffee, and cake of various and sundry sorts—all good, and fruit wafers; the whole skillfully served by Misses Vandiver and Sadie Stingley, under direction of Mrs. Young and Mrs. Koller.

When at a late hour the company ceased eating simply for lack of capacity, and said goodby to their hostess, it was with the conviction that Misses Harper and Rupp entertain as they teach—and everybody knows they are competent instructors in their respective lines.

The Cooking Class's Picnic.

The Second-year girls had planned a picnic on Cedar Creek for Friday afternoon. The heavy shower Friday noon somewhat dampened their enthusiasm, but the cakes were filled, the cocoa mixed, the rolls baked, and the ham grated; so, when one sunbeam was to be seen, the hay rack, with its four horses, was seen plodding its weary way through the mud with thirty merry girls for a load. The Post-graduate girls of the Domestic Department followed in carriages, and Prof. Mason, with Supt. Sears and Mr. Otis, were the invited guests.

The weather, though so threatening here, had been kind; for when the camping place was reached it was found the shower had not extended so far, and there was no troublesome dampness to mar the fun.

Fires for making the cocoa and boiling the maple syrup—which was Michigan sugar melted down—were soon made, and while the older class prepared supper, the Second-years went "a bugging" with the good fortune of finding many of the seventeen-year locusts in various stages of existence. This gave the trip a profitable turn, and after the cyanide bottles were full, hands were filled with flowers, and all were ready for the supper in the woods.

The ride home was jolly and happy, and the Second-year picnic was voted a success.

Program of Commencement Week.

SUNDAY, JUNE 7.
 Baccalaureate Sermon, by President Fairchild, at 4 P. M.

MONDAY, JUNE 8.

Address before the Societies, by Dr. Bernard Bigsby of Detroit, at 8 P. M.

TUESDAY, JUNE 9.

Class Day Exercises for Invited Guests at 4 P. M.
 Address before the Alumni Association by Prof. Frederick J. Rogers ('85) of Cornell University, at 8 P. M.

WEDNESDAY, JUNE 10—COMMENCEMENT DAY.
 Commencement exercises at 10 A. M.
 Annual Address, by Hon. Eugene F. Ware.
 Society Reunions at 2 P. M.

Military Drill at 3:30 P. M.
Business Meeting of Alumni Association at 5 P. M.
Alumni Banquet in Ulrich's Hall at 8 P. M.

Closing examinations, Saturday and Tuesday, from 9 A. M. to 12:20 P. M.
Public conveyance to and from College.
Dinner on Wednesday, served in Armory Hall by Ladies of the M. E. Church.

Y. W. C. A. Social.

Some time ago the Y. W. C. A. girls received peanut shells inside of which was a neatly written invitation to spend a social evening at the home of Miss Verna Cress, '94. Although the clouds threatened rain, early Monday evening, the 18th, found quite a number of the girls gathered on the lawn. After several selections of vocal and instrumental music, Ellen Norton, ex-president of the Association, gave an interesting account of her trip to Lake Geneva last summer as a delegate to the Summer School. The remainder of the evening was passed pleasantly in partaking of refreshments, telling stories, and playing anagrams. Promptly at nine o'clock the girls thanked their hostess for her hospitality and bade each other good night.

COLLEGE ORGANIZATIONS.

Student Editors.—Gertrude Havens, E. G. Gibson, F. E. Uhl.

Alpha Beta Society.—President, M. G. Spalding; Vice-President, Clare Wilson; Recording Secretary, Ed. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce; Board of Directors, J. M. Westgate, Guy Hulett, Marian Gilkerson, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, C. D. McCauley; Vice-President, R. W. Bishoff; Recording Secretary, W. B. Chase; Corresponding Secretary, J. E. Trembley; Treasurer, W. T. Pope; Critic, S. Dotby; Marshal, W. H. Young; Board of Directors, J. B. Doran, R. J. Peck, L. A. Nelson, J. G. Haney, F. Gregory.

Hamilton Society.—President, C. E. Pincomb; Vice-President, W. L. Hall; Recording Secretary, L. G. Hepworth; Corresponding Secretary, V. Maelzer; Treasurer, A. D. Coe; Critic, R. K. Farrar; Marshal, A. J. Pottorff; Board of Directors, C. S. Evans, H. M. Thomas, E. O. Farrar, G. W. Finley, B. H. Shultz.

Ionian Society.—President, Minnie Pincomb; Vice-President, Winifred Houghton; Recording Secretary, Sue Long; Corresponding Secretary, May Bowen; Treasurer, Flora Allingham; Critic, Maggie Carleton; Marshal, Bessie Lock.

May 16th.

The Ionian Society was called to order by Vice-President Houghton. After the usual introductory exercises, the program opened with an original story by Anna Pfuetze. Misses Laura and Lizzie Engle, accompanied by Ione Dewey-Earle, then favored the Society with a vocal duet which received a hearty encore. The "Fable" by Grace Stokes was well written and well read. Miss Huntress's piano solo received an encore, to which she responded. The Oracle, by Miss Perry, was appropriately decorated with a large May basket, and contained a number of interesting and well written articles. Misses Brady, Pfuetze, Norton, and Houghton then gave one-minute speeches on subjects chosen by Miss Lewis. Probably the most interesting feature of the program was a ten minutes talk given by Prof. Olin. The piano solo by Mrs. Winne was enjoyed by all. Miss Brady gave an interesting select reading. After transaction of business, the Society adjourned. M. H. B.

May 16th.

The Websters were called to order by President McCauley. After roll call, M. Wheeler led in prayer. Debate, "Resolved, that a general education is preferable to a special course." H. N. Rhodes opened the affirmative by defining both the general and special education. By the general education we are fitted for a variety of duties. The person with such an education is not often out of employment, while the specialist often is. Colleges for giving a general education are becoming more numerous all the time. F. H. Meyer, speaking on the negative, said that a special education takes in a special line, with its necessary accessories. If we have no special aim in view, we will gain but little. The marked advances in the world are made by men of special education. The specialists have built up the sciences, and every day they are discovering something new. J. M. Pierce, on the affirmative, spoke of the general education as a discipline to the mind. The specialist may have employment for a time, but is likely to be idle at any time. R. B. Mitchell, on the negative, displayed some of his oratorical ability. "A jack-at-all-trades and good at none." Do we want to know all about something or something about everything? It is to the specialist that we go for information. Webster, our greatest orator, spent much time in practicing. General Grant received a special military training. The Society decided in favor of the negative. F. Windscheffel introduced the "Star Quartette," which responded with some excellent music. They responded to two encores. The Reporter, with motto, "Liberty, equity, and fraternity," was edited by W. B. Chase. Business, unfinished and new. J. E. T.

May 16th.

The Alpha Beta Society was called to order by President Spalding. The program opened with congregational singing, after which, Mr. Fryhofer led in devotion. Stella Hill and Fanny Noyes were then initiated. Maude Mannen delivered an oration on "The Influence of Books," in which she said books influence us as much as do our companions, and as in choosing the latter we need to choose wisely, so in choosing books we should select only good ones. Good books tend to make us better. The declamation by Rose Tannehill was well delivered, and received with due appreciation. In an essay, Carry Painter told of the life and home of Bryant, and discussed a few of his poems. This was followed by a piano solo by Miss Channell. In debating the question, "Resolved, that the evil effects of war have outweighed the good," Mr. McElroy maintained that war has a bad effect on human character. Its cost cannot be

estimated. It has cost immense sums of money and countless numbers of lives, causing untold suffering and misery. On the other hand, Miss Zimmerman argued that war arouses the inventive genius of the people. It is a great nation-builder. It has laid the foundation for all social and political privileges. The debate was decided in favor of the negative. Mr. and Miss Tannehill and Miss Moyer then entertained the Society with vocal music. The Gleaner was read by Mr. Rumold. A medley, rendered by the "Hair-slick Band," received a hearty encore to which it responded. After recess and roll call, Mrs. Folsom introduced for discussion the subject "Newspapers;" Miss Cottrell, "The good to be derived from our course in dairying." The first-named subject called forth a spirited discussion. The newspaper could be a blessing, but is often otherwise. Often the best things are placed in the background, and the most conspicuous places are occupied by cartoons, advertisements, coarse jokes, and things that have a perverting influence. On the other hand, it was said that we should not condemn all newspapers because some of them are bad. We have the right of choice between good and bad. The newspaper has been a very important factor in bringing people together. By request, Mr. and Mrs. Hutto favored the Society with a song. Under unfinished business, it was decided to hold the reception for honorary members of the Society on the afternoon of Commencement Day. The program closed with a piano and mandolin duet, by Miss Secret and Mr. Powell. G. D.

May 16th.

Promptly at 8 o'clock the Hamiltons came to order at the call of the gavel in the hands of President Pincomb. Prayer, S. J. Adams. Roll call showed that most of the members were present. The program was opened by the debate on the question, "Resolved, that it would be better for the Nation to appropriate money for irrigation and the improvement of water ways than for coast defences and public buildings." C. E. Copeland and F. O. Woestemeyer argued affirmatively that arbitration was coming into more general use, rendering coast defences more needless. Many improvements could be made in our water ways and irrigation, which would be very productive to the country, employing a great deal of labor and machinery. Coast defences and public buildings are unproductive, and often are needless. Our present coast defences insure protection, and our public buildings are sufficient for our present needs. Dams should be constructed to hold the surplus water which we now have. The negative was upheld by G. G. Menke and H. W. Rogler, who maintained that public buildings and coast defences give a certain stateliness to the country, exciting admiration from abroad, and stirring up patriotism at home. Water ways and irrigation are a secondary matter. The Nation must first be protected, and then it is time to develop our resources. If we do not properly defend ourselves, more property could be destroyed in a few days than could be accumulated in many years by irrigation. In all our wars the coast defences proved inefficient. Irrigation is only experimental. We know coast defences will be a lasting benefit. The Society decided in favor of the negative. Music by O. E. Noble, committee, was highly appreciated, as shown by the repeated encores. G. M. Green read a very interesting essay on "Self Reliance." The necessity of this quality was brought out forcibly, and in excellent language. W. J. Goode delivered a declamation. "Can a Debtor Nation Maintain a Single Gold Standard?" was the subject of E. Emrick's oration, in which he set forth in glowing words the difficulties such a nation, taking the United States as an example, would fall into. E. O. Farrar's discussion on the "United States Mint at Philadelphia" was both entertaining and instructive. This was the first federal institution in America, being established 104 years ago. A quite lengthy but unusually interesting number of the Recorder was read by its editor, E. L. Hougham. A few of the leading articles were, "The Kodak," "Obedience," "May Basking," "The Chronicle," "Necessity of Compulsion," and the "Senior Party." On request the Star Quartet furnished the Society with music, to which they were twice encored. After clearing up considerable unfinished business the Society adjourned by candle light. V. M.

KANSAS EDUCATIONAL NOTES.

BY PROF. J. D. WALTERS.

The graduating class of the Wichita high school was composed of 29 girls and 16 boys.

Nebraska State University won the annual joint debate with the Kansas State University.

The Kansas Musical Jubilee for 1896 will be held at Hutchinson, May 26th to 29th inclusive.

The total attendance at the State Normal School at Emporia, during the past school year, was 1739, which is an increase of 90 over last year.

In the interstate oratorical contest held at Topeka, on the 7th, Iowa won first place, Illinois second, and Kansas third, the Washburn college representative being the lucky one. This contest is held in Kansas only once in ten years, as ten States form the association.

The committee on State Course of Study for district Schools met at Topeka on the 7th, and took a long step toward its completion. The nature and extent of work were agreed upon, and the work of outlining by months assigned to different members of the committee.

The thirtieth Annual Catalogue of the Kansas State University enumerates 895 students. Of these, 38 are post-graduates; 493 are in the school of arts; 121 are in the law school; 63, in the school of pharmacy; 156, in the school of fine arts; and 91, in the engineer-

ing school. □ The Faculty numbers 52 members. The attendance during the past year was larger by 120 students than during the previous year, and exceeds that of two years ago by 504, while the Faculty added two new members in two years.

Leavenworth has adopted a "Curfew" ordinance for children under 15 years. The penalty for children running about on the street after 8 o'clock, except under the watchful eye of their parents or guardians, has been fixed at \$25.00. The fire bell will notify the young people of the "Curfew" hour.

Hiawatha has an academy of which Governor Morrill has been a steady benefactor, and as the school's "next friend" he has been notified that by the will of Mrs. Mahala Hoover of Hiawatha the academy has come into an estate of \$25,000. Mrs. Hoover was one of the earliest settlers of the good county of Brown. For nearly fifty years she watched the good things of Hiawatha, the trees in the public square, the public schools and the churches and the public library, and finally the academy, grow and prosper, and in leaving them all she devised this gift to the academy to the intent that it and all the other public benefits might grow along together. It may be said of the older towns and cities of Kansas, and even more of Missouri, as being an older country, that the age of benefaction has arrived. The institutions now exist which should be fostered and helped by the care of the living and the remembrance of the dead. Thus may good men and women see good works prosper under their hands, and departing build for themselves enduring monuments.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka. The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popenoe, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc.,—may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary.

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WORD BIOGRAPHIES.

BY PROF. O. E. OLIN.

DEAN TRENCH and that tireless scholar, Max Mueller, have opened a field of great interest by their studies of words. They have shown us that language is not a mere machine for transmitting thought, but that it is a pulsing, almost living medium, warmed and glowing with all the life of the past; that each word when studied as an entity has a life history that contributes to the beauty and the power of language. The field thus opened has been explored by many other writers until now the student of words can find much material ready at hand for the work of classification or of original research.

The study of words is necessary to the man who would have power over language; a study not merely of the dictionary meaning, but of all the history that has grown around them. A word has a dictionary meaning, and in addition to this a meaning that has been given to it through history or custom or long association with certain usage; in short, the biography of the word. The dictionary meaning is what the word denotes, and is the basis of its use; this second meaning is what it connotes, or has gathered around it, and comes in to restrict, modify, or frequently to enlarge the first meaning of the word. And it is in this secondary meaning that the flexibility, the suggestiveness, the adaptation, of the word are mainly found. Without this, one could never use Yorktown or Appomattox or Waterloo with anything but a geographical significance. "Tribulation" would be only trouble, and "halcyon days" would be meaningless. Often more than half the meaning of the word is in what it connotes; and this is to be found not in the dictionary, but in the life history of the word.

One who uses language for the practical purpose of influencing others must make careful study of this history. In the vocabulary of force much of their strength is given to words by what they connote, and this the definition will not always give. By knowing their origin, a skillful writer like Ruskin or Carlyle can with a single stroke restore a faded metaphor to brilliancy, or give cutting force again to an expression blunted by common use. This power to secure effects by mere strength of words without rant or declamation is one of the most cultured forms of oratory, and is well worth the earnest care of every speaker.

Aside from the practical uses of the study of words, it has a fascination in itself. It is pleasant to find old companions in new places; to see a well-known face masquerading in another language; to trace familiar words from generation to generation, and from language to language back toward the primitive home. We find words that, like the soldier of fortune, have served many masters. We find those that have so forgotten their origin that their meaning is the very opposite of what their name declares. We find words christened but yesterday, adopted into the company of roots and prefixes three thousand years old, while words born in kings' palaces are now the street slang of the "gamin." We become curious to know why in our word for conquest there should be *jugum*, the yoke; or what can be the reference in trivial to "three ways."

In addition to the mental pleasure afforded, this study of word life has contributed much to history. It has brought to light many new facts, and has given certainty to much that was conjecture. The historian must now be a philologist, too. And so in a way hardly foreseen by those who considered this work more scholarly than practical, the researches of Trench, Mueller, DeVere, White, and Mathews are fitting in with the everyday knowledge of the world and becoming a part of its constant growth.

SAP.

BY JULIA R. PEARCE.

NOW, this is neither a botanical nor horticultural treatise, as you might know by the name under the title. It is simply the expression of a few rambling thoughts on nothing in particular, sap in general. The subject was suggested by hearing one student speak of another as a sap-head. The so-called "sap-head" was a sappy specimen without any mistake—one of these green, fresh, verdant, growing, sturdy, promising kind. Life, vitality, great possibilities, were there in abundance. While the one who made the remark was not green at all, he was no sap-head. In fact, he had scarcely mental sap or vitality enough to run him through the year. As we

are talking of green things growing now, I shall liken him to a pepper plant, which is of a small, woody growth which matures early and dries up in one season. It has its use in this world, of course, and our young friend can't help the fact that he was born a pepper plant and not an oak. (See Parkhurst on this subject).

But I am talking of sap. You all know the effect of forcing plants in a greenhouse. The object is to obtain one or two extra large tomatoes or strawberries or some blossom, as the case may be, and this in the shortest possible time. Everything else is sacrificed, and the result is a low, under-sized plant, with a very few large, succulent leaves and the one abnormal blossom or fruit. This gathered, and its day is over; no more can be expected of it. All the sap or strength it had was needed to make that one unnatural blossom.

So it is with some of our youth of hot-house growth. They are brilliant in high school or college. Deliver some ringing oration or valedictory, make some stirring speech in his society, and he is the hero of the day. Great possibilities in the future are predicted. It may be that he has reached his ultimatum. He flashes out in one brilliant little essay, and then goes out forever. He has no reserve material, and will never produce another blossom; never be heard from in the coming years. His friends wonder. He was the brightest boy in his class, and promised so much. Had he been allowed to grow a few more seasons out in the wind and sunshine, and put off mature thoughts and tasks for the years suited to them, he might have made a sturdy tree.

There is an over-worked specimen of another kind which is so numerous that I suppose I am running a risk of treading on some one's toes. But let me say right here, that as there are so many of you, I haven't any particular one in mind; and if anyone chooses to make personal application of these remarks I can't help it, so don't mention it. If you do, I shall tell each one; he or she was the one meant. The class of student I have in mind is the one who has a fairly good mind, material good to work on, and starts out well, so well in fact that a good deal is expected of him. At first it is easy to meet all requirements, but these increase, especially social duties, and before he realizes it he finds himself going all to foliage. It takes all his time to keep up with the requirements of his band and orchestra practice, church socials, concerts. He gets into a set where he is expected to take his girl out just so much to keep up with the rest. He finally develops into what Buxton calls a "desultory, ineffective young man." He has simply had so much to see to that the building up of a strong character, the steady growth of mental strength, in short, the making of a man, has had little attention,—just what time there was left, and that always when he is tired. And so all his vitality goes to foliage. The woody material that he is to depend on in future seasons was neglected.

Of course, no one wants the other extreme, and to be called wooden. A certain amount of leaves and flowers are necessary to the growth of the tree, but the foliage does not contain the strength that is going to last; and who would not rather see the graceful foliage of a magnificent tree than the large, leafy growth of the overgrown buckeye. Our sap-head who is green enough to grow may turn out an oak tree. Long may he wave.

Don't Work With the Hands Alone.

It is his mental training that gives the lawyer his influence in society over all other classes of men. He has to study out all the philosophy of the farmer's life, in order that he may try farm cases successfully, and so in turn he studies the philosophy of the doctor's life, the merchant's life, and the manufacturer's life.

There are thousands upon thousands of men who are dairy farmers, who have natural qualities of mind as strong as the lawyer, but they lack the mental training, and so they are weak in the conduct of their own business and in their influence among men. They have always considered too much that the work of the farm was a work of the hands; they have never believed that to be truly successful they should have well-trained minds as well as hands. They have never trained themselves to be students in the full meaning of their business. For that reason they constantly live on the outer edge of it, not in the heart of it.—*Hoard's Dairyman*.

Not a Jack of All Trades.

Mr. Drake, in his address at the eighth annual convention of American agricultural colleges and experiment stations, discussed agricultural education. He favored manual training for the farmer's boy. After elaborating its advantages, he said:

"The farmer boy comes to the agricultural college with a definite idea of getting such knowledge and training as will enable him to accomplish more work with less exertion. He wants to know how to operate a farm with the least expense and the largest possible returns. In short, he desires to find out how he may improve his circumstances and at the same time make life easier for himself and his family. This is not always best brought about by making the farmer more independent. Prosperity in general does not mean every man for himself alone, but it is sure to follow if we truly observe the sentiment in the saying, 'Live and let live.' This is in a great measure the secret of business success. One man says to another, 'You buy of me and I will buy your goods of you,' and in the transaction each one makes a profit. Therefore I do not think it best to encourage the farmer to do by himself too much of his constructive work or repairs. Here and there one may be found who is capable of planning and building a new barn, but in most cases it will be cheaper in the end for the farmer to employ a builder, while he is giving his time to the more valuable operations, to him, of harvesting and marketing his crops."

The thought of Mr. Drake is correct. While a farmer may acquire handiness in making his general repairs, yet it is clearly true that a good farm in the hands of a trained farmer is able to exhaust the normal powers of its owner in the direct work of growing and marketing crops, either through animals or directly. Any digression from this main line will usually be at a disadvantage.

In thus speaking we would not discourage the lesser constructive work that can be done at a manifest advantage on the farm where the labor is cheaper and at times unpressed with more essential work of the farm; yet there is a class of farmers and of farm thinkers who advocate and practice, making such tools as horse sleds and some of their working wagons and other working tools that require much time and a liberal measure of skill. In short, the farm has opportunities enough for an active mind to occupy itself to full advantage.—*Mirror and Farmer.*

The Farmer of 1900.

We shall then have the "new farmer." His portrait has not yet appeared in the illustrated press, but we fancy that when it does he will not be swinging a scythe, riding a hay-rake, or holding a cow by the horns while the lawyer and middleman fill their pails with milk. Oh, no! The artist will get a snap shot at the new farmer while busy setting nitrogen traps, cultivating bacteria, or hunting for nodules, armed with a compound microscope, if need be, or perhaps his pencil may sketch him on a tour a-wheel with beaker, glass rod, and bundle of blue litmus paper looking for acidity in his soil. Leguminosae will be his watch word, and his conversations will be of lime and clover, chemicals and thorough cultivation, nutrients, rations, and calorics, butter-fat, starters and ripeners, the bacteria of the dairy, the field and the silo, insecticides, fungicides, smuts, scabs, blights, rots, and the like. Dr. H. W. Wiley, chemist for the department of agriculture, aptly points the way in the following poem:—

And the fellers from the college of agriculture they,
Wuz thick az lightning bugs in June, and had a hapt to say,
There wuz one they called a chemist, and he kind a seemed to know.

All that wuz in the air above and in the ground below.
He said we needed nitergin, and showed how the stuff
Wuz awful high and skeer for crops, while in the air enuff
Wuz found to make us 'tarnal rich if we could only git
Some cheap and sartin projek of hitchin' on to it.
He said that peas and clover and other crops like them
Wuz just the stuff to do it and store it in the stem,
And the yeerth is full of critters that eat this stuff, you see,
And change it in a twinkl to ammonie.
Since I come back from the institoot, it really appears
Potash, nitrate, fosferus wuz ringin' in my ears,
And, William, it seem pertty tuff that you and Jim, and me
Hav went along so ign'rant of what we daily see.
Jist hauled manure out on the pints and plowed and hoed
and mowed
And worked so hard for little pay, and never, never knowned
That clover, peas, and beans, and sitch as the chemist
mentioned there.
Hav the highly useful knack of suckin' niter from the air.

You may think the above all caricature, but rest assured that there is much more than a substratum of truth in the picture, and the new farmer in his pursuit of agriculture must be familiar with every new "wrinkle," and an adept in strategy if he has any serious intention of catching her. He must not carelessly ignore either old or new methods, but carefully study both, holding fast to those which stand the test of science and practice.—*Chas. O. Flagg, Director Rhode Island Agricultural Experiment Station.*

Let Novelties Alone.

No season passes without its flood of novelties which inexperienced people are urged to buy, and often to buy at extravagant prices. We have nothing to say against the novelties that are each year presented in the catalogue, so long as they are presented as novelties. Too often, exaggerated claims are made for them. They are represented as being hardy to a miraculous degree, fruitful beyond belief, and the fruit of a quality surpassing anything ever before heard of. Planters should leave novelties alone unless they wish to do a little experimenting. As a mere experiment, one can afford to plant almost anything; but when planting for results, standard

varieties only should be used, and, just as far as possible, the selection should be confined to those varieties that have been known to do well in the particular locality. There is no better guide or warning for one intending to plant than a neighboring orchard. Imitate its successes and avoid its failures. In buying stock, buy as near home as possible. The change in conditions will be less, the time the stock will have to be out of ground will be less, and the seller has a local reputation that it is to his interest to keep good. New things have to be tried, of course, but let those who make a business of horticulture do the testing. They have experience which furnishes them some guide as to what is likely to be worth testing; they have knowledge of the work which renders it more likely that they will be able to give the conditions that success demands, and they expect to do every year more or less experimenting, hence are not discouraged by a large proportion of failures; because they calculate upon making them. The planter on the farm usually falls short at all these points, and except in a purely experimental way, he should let novelties alone.—*Live Stock Indicator.*

Road Making.

A good many of our readers will be warned out by the supervisor to work the roads. In some cases it will be going through the form mainly, or playing work the roads; in others there will be a good deal of work done. Much of this good work done is spoiled by reason of the incompetence of the supervisors. We have seen roads rendered impassable almost all summer by the lack of a little of the know-how on the part of the man who was bossing the job. Where dirt is piled into the middle of the road with plow and scraper, it is folly to fail to use the harrow. If the harrow is not used, and used thoroughly, the result will be that the road will be full of holes for months to come. When a thrasher wishes a first-class track for his horses, he selects ground that has been plowed and thoroughly harrowed. He knows that this will tramp down smooth and hard. Freshly plowed ground or a pile of fresh dirt contains large lumps and many comparatively open spaces, and when travel comes on it without being sufficiently pulverized, it makes the very worst kind of a road. Therefore, before leaving the road, harrow the fill thoroughly and completely and thus prepare a good highway.—*Wallace's Farmer and Dairymen.*

Beauty in Home Surroundings.

What the poets extolled, the English people soon learned to love, and we are slowly awakening to a sense of beauty in our home surroundings. When the restless and nomadic spirit which the fermentation of our new unsettled civilization begets in us all, shall subside; as we learn to fit ourselves to our conditions; and the crudeness of today tones down into mellowness of tomorrow, this love of gardening, so sane and wholesome, will grow in us more and more, and rouse in us that tender enthusiasm for our childhood's home which shall lead successive generations to protect and embellish it, to study its capabilities lovingly, and induce us to bring to their development the best thought of the day.

One can hardly say too much about this subject, for the bald, bare houses, the stiff, straight fields of our youth, are passing away, to be succeeded by more comfortable and attractive dwellings embosomed in trees and shrubs and gay with flowers.

The purely material is not all of life; we live a half-starved country existence if we suppress that sense of beauty which lurks in us all, and responds when it is confronted by skillful and picturesque planting.—*Mrs. Mary E. Robbins before the Conn. Board of Agriculture.*

Never too Old to Learn.

A farmer 30 years of age in Wisconsin, wishing to know more about dairying, managed to leave his 50 cow dairy long enough to take a winter course in the State School of Agriculture under Professor Henry. In the spring he went home with some new ideas and a Babcock tester. The cows were tested, so were the new ideas. At the end of the season he wrote Professor Henry that he sold off 10 of his cows and yet received more money for the product of the 40 than he had before from 50, and that he expected to get even more the next year from 30.

He had formerly depended on mowing a ton per acre of timothy and June grass, dreading to plow and reseed because of the risk of getting a good catch. He had now plowed much of his old mowing and raised 120 bushels of ear corn per acre and twice the amount of fodder he formerly had from his old methods of culture.

Such schooling pays whether the student is 20, 30, or 40 years old. The reliable agricultural journal is also a school, and its teachings usually pay large interest on the investment to all thinking readers.—*A. W. Cheever, in New England Farmer.*

Young men of an inventive turn of mind should be constantly on the alert, observant in everything. Note where a saving of time or material can be effected by improved methods. If you cannot make two blades of grass grow in the place of one, invent some method to do certain things quicker and better than by present methods. Time is money, and any method by which time is saved has a commercial value. If the operation is performed better and quicker, the commercial value of the method or means enhances accordingly. The simplest inventions are of the most value, comparatively. A recent report from the patent office states that the majority of successful patents were for articles that retailed for \$1 or less.—*Colman's Rural World.*

FARM NOTES FROM VARIOUS SOURCES.

The farmers of the United States receive three quarters of a million dollars every day—on an average—for the hogs which they sell. We are indeed a swinish people, but we have to pay for it.

Every farmer should be a politician. That is, he should keep himself posted on the laws of the country and the men and parties who make them. If all farmers should do this, they would not be so apt to vote against their own interests, as most of them are in the habit of doing.—*Exchange.*

A farm house with no trees around it is only a temporary home at its best. And yet, I have traveled for miles through some settlements in our own state of Iowa where the trees and shrubs around the houses almost hurt one's eyes by the abrupt and inexcusable manner in which they were not there.—*Homestead.*

The farm is the grand theater where physical culture can be secured in connection with mental and moral advancement. The ruddy-cheeked farmer boy that throws the maul and axe, that drinks the bright nectar as it gushes from the native hills, and inhales the fresh air as it sweeps over the field and plain, can endure the chilly rain and shivering blast with impunity.—*Homestead.*

The farm is the farmer's world, and the home the heart of the world. In conducting the farm on sound business principles, it is vitally important that provision must first be made for the sustenance of the family and live stock necessary to conduct operations on the farm. With this as a basis, and decreasing expenditures, the money crop will be a surplus one, and the producer will be, to a certain extent, independent.—*Southern Farmer.*

Every farmer should know to a certainty whether or not the stock he is keeping pays for its keep. Lots of farmers we know are this winter feeding and caring for two cows that don't give as much milk as one good animal would produce. The expense of keeping these two animals is twice what it would be to keep one good one, and the fact is the milk they give could be bought for less than it costs to make it. Other lines of farm management are just as bad. Stop the leak.—*Agricultural Epitomist.*

An excursion to your state agricultural college or experiment station will amply repay any farmer. If a little effort is made to get up a large party, reduced rates can be secured and the trip can be made most enjoyable. This will make a pleasant outing to take as soon as the spring work is completed, in the lull just before the summer campaign. It pays to get a little rest at this season, and again just before and also after the heavy work of harvest. All work and no play makes the farmer a dull boy.—*Farm and Home.*

It is a common belief of farmers working small areas, and who can only make ends meet, to think if they had more land they could make more money. The facts in the case do not bear them out. If a small farm is not made a success, the same management given a larger one will but increase the losses. There is another side to this matter. The man making a success of a small farm does not always make an equal success when he comes to larger areas and opportunities. Yet he will do better than the unsuccessful small farmer who adopts the spreading process.—*Farmer's Home Weekly.*

Just because we are farmers, and our wives are farmers' wives, and because our homes are on the farm, it is no reason why we should permit the premises to run down until they look as though a cyclone had struck them. A nice lawn should occupy the front and small fruits the back yard. The fences and buildings, if not as fine as those of some city premises, should at least be neat. The plea for neatness and home-like surroundings can not be made too strong for some localities. The idea is too prevalent that the farmer has no time to keep his premises neat. The impression is that he goes out in the fields early and stays until late, and when he could possibly get any time at all he has to go to town.—*Live Stock Indicator.*

The time to sell the products of the farm is when they are ready to sell and when the time can be had to haul them to market. The right time to buy anything is when it is needed and you have the money. Poor Richard once said that anything bought because it was cheap, and not because it was needed, proved dear to its purchaser. I once was persuaded to buy a colt at a sale by a remark of the auctioneer that the colt would pay the note twelve mouths hence, with enough money left to buy another. When the time arrived for paying the note the colt would not sell for enough to pay it, and I had to touch the bank account a trifle to get the note back. I have let the other fellow do the speculation in this line since that transaction. Selling well, and at the opportune moment, and using good horse sense in buying what is needed, belong to modern agriculture. Economics should be the first branch studied by our farmers' sons.—*Iowa Homestead.*

A one fare rate for round trip has been secured for the Ottawa Chautauqua Assembly. Dates of sale, June 13th to 26th inclusive, from all points in Kansas and Oklahoma within 150 miles from Ottawa; June 13th to 19th, inclusive, from points beyond 150 miles, Kansas City and St. Joseph included. All tickets limited to return including June 30. Go to the Ottawa Chautauqua Assembly this year. They have a splendid program prepared, and you cannot fail to enjoy your stay in that delightful park by the river side. If you do not get the "Assembly Herald," apply to Sanford Topping, Ottawa. The "Herald" contains full particulars in regard to program and expenses.

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1896-97.

Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Grace Secrest, Fourth-year, spends her holiday at home.

Mabel Cotton, Fourth-year, takes advantage of the holiday to visit home.

Kate Zimmerman, Second-year, suffers from an attack of rheumatism.

Prof. Brown, assisted by Miss Helder, will conduct a summer music school.

O. S. True, First-year, enjoys a visit from his sister of Vera this week.

Mrs. Mayo lost a number of friends and acquaintances in the recent Michigan storm.

Gertrude Havens, Fourth-year, again takes her place in classes after a season of sickness.

Two carriage loads of Seniors breathed the evening air of Ft. Riley and Junction City yesterday.

Mr. Dewey, the photographer, took a picture of the Senior Class on the steps of Science Hall yesterday.

Chris Kenney, First-year, has gone to Annapolis to take the examination for entrance to the Naval Academy.

Mrs. Fairchild and Mrs. Kedzie read papers on their visit to Paris at the next meeting of the Domestic Science Club.

The 170 tons of coal in the pit ignited on Thursday from spontaneous combustion, and is being moved in the hope of saving it.

Prof. White was one of the judges in the oratorical contest of the Dickinson County High School, at Chapman, last evening.

Isabel Symns, First-year, is unable to pursue her studies, through both eyes being swollen shut from contact with poison ivy.

Capt. Cavenaugh attended the Commencement exercises of St. John's Military Academy, at Salina, on Tuesday and Wednesday.

John Yowel of McPherson, interested in the Farmers' Alliance Insurance Company, visited College Wednesday with A. G. Wolf of this vicinity.

The rain this morning excused the battalion from participating in memorial exercises, though the Cadet Band played at the opera house in the afternoon.

The members of the Senior Class are proud of their new rings. The set bears the raised monogram of the college initials in gold on black stone in neat design.

Prof. Georgeson lost a valuable Jersey cow, his personal property, this morning. The cause of its death seems to have been a complication of diseases, chiefly constitutional.

M. H. Horn, Second-year, leaves Monday for the Insane Asylum, Topeka, where he has secured work for the summer. He intends entering College again sometime during the fall term.

The Hamilton Society will hold a reunion in the old drawing room at two o'clock, Commencement day. The exercises will consist of short addresses from former Hamiltons. All old society members will be heartily welcomed to the reunion.

A test of the efficiency of the various pumps used in irrigation is to be made by Prof. Hood, under the auspices of the State Board of Irrigation, which has appropriated \$500 to meet the necessary expense of apparatus for such a test, and incidental expenses.

Prof. Platt, for so many years a member of the Faculty, has so far recovered from the recent serious injury to his eyes that he has returned to his work as Superintendent of Oklahoma Sunday Schools. His complete recovery is confidently expected soon.

Dr. Bernard Bigsby, who lectures before the literary societies Monday evening, June 8th, will give his lecture, "Rugby and Arnold," in Wareham's opera house Saturday evening, June 6th. Tickets may be obtained from the committee of the Societies having the matter in hand. Prices are 15, 25, and 35 cents.

Reduced rates for all visitors to Commencement are confidently expected. Those coming should, when they buy tickets, take a certificate of the fact that they pay full fare to Manhattan, which certificate, signed by the College Secretary, will probably entitle to a return ticket over the same route at one-third the regular fare.

The College Social of Friday evening was attended by a goodly number of students in spite of many attractions elsewhere. The class in calisthenics gave a pleasing entertainment with clubs, dumb-bells, and wands in the chapel, the only well-lighted room in the Main building. The real social, after the entertainment, gathered in the Society rooms, where electric lights were available. The gasoline ordered

ten days before, to furnish light for this occasion, failed to arrive, hence the darkness in reception rooms and halls.

A. E. Ridenour, Fourth-year, takes up the duties of gardener at the State Insane Asylum. He will be here at Commencement to graduate with his class.

The Kansas City Commercial Club enjoyed its visit to the College on Saturday last, as the following paragraph from the *Times* report will testify: "The Kansas State Agricultural College was the chief object of interest in Manhattan, where a stop of nearly two hours was made. Over 600 students, including women, attend the College, and the State has been liberal in providing many buildings, constructed of fine stone and fitted up for the training of the future farmers of Kansas. Lately a Hall of Science has been built, for which was appropriated \$65,000. Here there is a library, in addition to large collections of Kansas fauna and flora. The College has the use of over 300 acres of land, part of which is cultivated on scientific principles. The Kansas Cityans saw all these things and many besides, and were deeply impressed with the energy of Kansas in educating her youth. The visitors were driven in carriages to the College, where they were fed upon biscuits cooked by Mrs. Kedzie's class of girls, and on strawberries raised by the embryonic young farmers. The biscuits were as luscious as costly confectionery, and the strawberries were as large as walnuts and correspondingly sweet and juicy. The appreciative visitors indulged themselves so heartily that dinner in the dining car that day had lost all charm. Another feature of Manhattan was its city park of forty-five acres."

GRADUATES AND FORMER STUDENTS.

Alice Quintard, '95, is visiting Maggie Carleton, Senior.

Mary Pritner, student in 1893, visited friends at College the first of the week.

Ida Pape, a former student, visited her brother C. S. Pape, '95, the first of the week.

F. J. Smith, '95, Foreman in the Printing Office, spends a few days at home this week.

Caroline Stingley-VanBlarcom, '91, of Kansas City, visits her parents in Manhattan.

Flora Weist, '91, has returned from Wagon Mound, New Mexico, where she taught for two years.

G. C. Wheeler, '95, is Conductor on the N. Y., N. H. & H. R. R., with headquarters at Boston, Mass.

According to the *Riley Regent*, W. E. Smith, '93, gave universal satisfaction as Principal of the Riley Schools last year.

Announcement is out for the marriage, on June 3d, of C. J. Dobbs of Topeka and Nellie P. Little of Manhattan, both of the Class of '90.

Regent Hoffman gives the address to the graduating class of the Dickinson County High School at the Commencement exercises, June 5th.

Sid H. Creager, '95, writes from Kansas City, where he is employed on the *Journal*, asking for catalogue and commencement program.

J. F. Odle, '94, for two years past on Gov. Morton's dairy farm at Rhinecliff, N. Y., will in a few days take charge of the Jersey Villa Dairy Farm at Glenshaw, Pa.

C. G. Clarke, '88, who graduated in the Yale theological course last year, has been employed for the coming year to fill the vacancy on the Faculty corps caused by the absence of Prof. Richards of the Mathematical Department.

The many friends of Charley Campbell, [91] son of Rev. Wm. Campbell, will be pleased to learn of his success. He graduated May 7th, at the Auburn, N. Y., Theological Seminary, and now has charge of the First Presbyterian Church at Providence, R. I. —*Mercury*.

The Junior Boys Entertain.

As a result of the kind invitation to the home of our highly esteemed classmate, Mr. A. C. Smith, the Juniors met on the evening of May 23rd, perhaps for the last time in the capacity of a Third-year party. The boys of the class had full charge of the entertainment, which was indeed carried on in a most elaborate style.

In spite of the threatening clouds and the unusual high temperature for this time of year, the guests, about sixty in number, arrived to spend a most delightful evening on the lawn. It is unnecessary to say that the Third-years are firm believers in good, solid fun, which was fully sustained on this occasion. Benches and hammocks were put in various places for the accommodation of the crowd.

The moon, no longer hidden, came forth in all her beauty, casting "special rays," as it were, at this particular time upon the Class of '97. Croquet then became the favorite game, exceeded in interest only by the game which followed, the refreshments, which were served in a very unique manner. As for the waiters, we were led to believe that much of their knowledge along this line is due to the careful training by their big sisters, unless they had received special instructions from Mrs. Kedzie. But this only proves another one of the capabilities of the boys of '97; time and opportunity will reveal the rest.

The evening's enjoyment would have been incomplete without the music. Selections by the male

quartette, composed of Messrs. Clothier, Frowe, Peck, and Newell, were highly appreciated. If the neighbors had not yet become aware of our presence, they could not have failed to comprehend it after all had joined in singing the old familiar songs, chief among which was the sixteen verses of "Animal Fair," the characteristic song of the class.

The time of our departure came altogether too soon, but we went away feeling very grateful to the entertainers and to Mrs. Smith for the kindness shown to the classmates of her son, Alfred. Although a saddened feeling came with the thought that there is only one more year to enjoy college life, still this will always be remembered as one of the happiest occasions.

G. M. L.

A Curio Party.

Prof. and Mrs. Mason and Mrs. Kedzie entertained the Faculty on Thursday evening in a curio party. Each of the guests brought a curiosity, more or less curious, belonging to one of three classes,—ancient, natural, and manufactured,—and soon a large table was heaped with an interesting collection representing each of the classes named.

Among the curiosities were an Alaskan totem cane, the great seal of the Confederacy in silver, a painting on cobweb, opium pipe, Buddhist idol, old books, Apache war club, Washington plate, Venetian mosaic, carved wooden shoe, Japanese clock, Japanese needlework, arrow heads, parchment deed of 1591, Indian pipe, Alaskan fishing line and hook, liquid solution in which stones floated, meteorite, wineglass 100 years old, salt cellars, Indian beads, Egyptian dagger, shark's egg, fins of flying fish, petrified frog, fire imp, pitchers, etc., etc., the whole making a museum of no mean order. Prizes were awarded in the various classes as follows: Ancient—First to Mrs. Graham for Gautama, a Buddhist idol; second, Prof. Nichols, parchment deed of 1591. Natural—First, Miss Pearce, shark's egg; second, Mrs. Fairchild, spotted coral paper weight. Manufactured—First, Mrs. Lantz, painting on cobweb; second, Mrs. Winchip, Venetian mosaic.

When the excitement—of a rather mild form—incident to the display had in a measure subsided, it left the company with "that tired feeling," which was promptly relieved by delicious refreshments, served by Misses Stokes and Frisbie, assisted by Messrs. Sears and Otis, all whom won encomiums for their efficiency as dispensers.

The New Catalogue.

The Thirty-third Annual Catalogue shows a total enrollment for the year of 647 students, of whom 419 are young men, and 228 young women. These students come from 72 counties of Kansas, and 17 other States and countries. In spite of hard times and other adverse influences, the enrollment for the year is 60 greater than in any previous year.

The enrollment by classes is as follows:

Classes.	Gentlemen.	Ladies.	Total.
Post-graduate.....	15	17	32
Fourth-year.....	46	25	71
Third-year.....	35	32	67
Second-year.....	72	49	121
First-year.....	249	104	353
Special.....	2	1	3
Totals.....	419	228	647

Twenty-six applicants were not enrolled because of insufficient preparation.

The records of attendance in the 17 years during which the writer has been connected with the College is as follows:

COLLEGE YEAR.	Special.	First year.	Second year.	Third year.	Fourth year.	Post-graduate.	Total.	Graduated.
1878-'79.		90	89	16	12	...	207	9
1879-'80†		167	61	35	11	22	276	7
1880-'81*		184	48	24	9	2	267	8
1881-'82.		232	50	19	11	...	312	9
1882-'83.		245	60	30	12	...	347	12
1883-'84.		287	92	26	18	2	395	17
1884-'85.		274	71	36	16	5	402	14
1885-'86.		274	91	35	24	4	428	21
1886-'87.		312	96	44	24	7	485	21
1887-'88.		305	92	46	27	2	472	22
1888-'89†		266	103	41	28	7	445	25
1889-'90.		307	105	63	28	11	514	27
1890-'91†		343	135	50	53	12	593	52
1891-'92.		336	139	62	37	10	584	35
1892-'93.		339	110	66	43	29	587	39
1893-'94.		275	141	72	42	25	555	40
1894-'95.	5	276	108	89	64	30	572	57
1895-'96.	3	353	121	67	71	32	647	57

* Course strengthened.

† Requirement for admittance raised.

Of the total enrollment, 302 are here for the first time. Ninety-five of these new students are young women and 207 young men.

For native States, the following answers were given: Kansas, 201; Illinois, 26; Missouri, 8; Indiana, 3; New York, 3; Ohio, 13; Michigan, 2; Kentucky, 3; Iowa, 13; Pennsylvania, 5; Nebraska, 4; Wisconsin, 2; and West Virginia, Vermont, Texas, Minnesota, Dakota, Chocktaw Nation, Germany, France, and Sweden, one each; while 10 did not answer.

As showing, in some degree, the kind of preparation for college work these new students have enjoyed, the kind of school last attended was given as follows: District, 124; graded, 140; other colleges, 21; county normal institute, 7; private, 3; county high school, 1; convent, 1; not given, 5.

One hundred seventy-four of the new students plan to complete the course of study here, 98 plan a

partial course, 29 are undecided, and one plans a special course.

Of the new ones, 94 are self-supporting; 150 are supported by parents; 49, by self and parents; 6, by friends; 1, by self and friends; and 2 gave no information upon this point.

One hundred fifty-seven were received on examination, 27 on teacher's certificates, 72 on county course of study diplomas, 40 from city schools, and 6 from grades from other colleges.

For parent's business, the answers are: Farmers, 195; merchants, 15; mechanics, 9; government and other officials, 7; lawyers, 7; bankers, 2; professors, 3; ministers, 3; dentist, 1; physicians, 2; druggists, 2; printers, 2; editors, 2; carpenters, 2; stone masons, 3; stock dealers, 3; fruit growers, 2; millers, 2; barbers, 2; agents, 2; laborers, 2; retired, 5; loan brokers, 2; and engineer, contractor, marble cutter, harness maker, miner, clerk, hotel keeper, foreman lumber yard, market gardener, and nurse, one each; not given, 18.

The counties and States represented by the total enrollment are as follows: Anderson County, 1; Atchison, 1; Barton, 1; Bourbon, 3; Brown, 3; Butler, 1; Chase, 7; Chautauqua, 2; Cherokee, 2; Clay, 16; Cloud, 3; Coffey, 5; Cowley, 2; Crawford, 1; Dickinson, 11; Doniphan, 7; Douglas, 5; Edwards, 1; Elk, 2; Ellsworth, 2; Finney, 2; Ford, 1; Franklin, 4; Geary, 15; Gove, 1; Greenwood, 4; Hamilton, 3; Harper, 1; Harvey, 1; Jackson, 12; Jefferson, 15; Jewell, 4; Johnson, 24; Kearney, 1; Kiowa, 1; Leavenworth, 7; Lincoln, 8; Linn, 2; Logan, 4; Lyon, 3; McPherson, 2; Marion, 7; Marshall, 10; Meade, 2; Miami, 15; Mitchell, 1; Montgomery, 1; Morris, 11; Nemaha, 8; Osage, 19; Osborne, 1; Ottawa, 2; Pawnee, 2; Phillips, 7; Pottawatomie, 15; Republic, 6; Rice, 7; Riley, 215; Rooks, 1; Rush, 2; Russell, 10; Saline, 5; Seward, 3; Shawnee, 15; Sheridan, 2; Smith, 2; Sumner, 1; Wabaunsee, 20; Washington, 13; Wilson, 2; Woodson, 11; Wyandotte, 5.

Other States: Arkansas, 1; California, 1; Colorado, 2; Germany, 2; Illinois, 4; Iowa, 1; Italy, 1; Kentucky, 1; Michigan, 1; Mississippi, 1; Missouri, 4; New York, 1; Nebraska, 1; Ohio, 1; Oklahoma, 7; Indian Territory, 2; Queensland, 1; Texas, 3; Wyoming, 1.

SECY. I. D. GRAHAM.

The First-years Catch the Fever.

About 8:30 o'clock on Monday evening a jolly crowd of we First-years met at the pretty country home of Mr. and Mrs. Long, on College Hill, where we enjoyed our first class party.

After a cordial greeting by the reception committee, we hastened out on the large lawn, which was beautifully illuminated by nature's lamp, and there indulged in many games, some ancient and some modern. Mesdames Winchip and Kedzie, and Misses Rupp and Harper, by their presence and assistance in entertaining, made the evening more enjoyable. Light refreshments, ice cream and cake, were served, after which a merry hour was spent in collecting, as souvenirs, the autographs of our classmates.

Time speeds on, as he always will, and the hour for our home going came all too soon. Thanking Mr. and Mrs. Long for their kind hospitality and with a pleasant good night to all, we went home, carrying with us many pleasant and never-to-be-forgotten memories.

I. K. S.

Program of Commencement Week.

SUNDAY, JUNE 7.

Baccalaureate Sermon, by President Fairchild, at 4 P. M.

MONDAY, JUNE 8.

Address before the Societies, by Dr. Bernard Bigsby of Detroit, at 8 P. M.

TUESDAY, JUNE 9.

Class Day Exercises for Invited Guests at 4 P. M. Address before the Alumni Association by Prof. Frederick J. Rogers ('85) of Cornell University, at 8 P. M.

WEDNESDAY, JUNE 10—COMMENCEMENT DAY.

Commencement exercises at 10 A. M.

Annual Address, by Hon. Eugene F. Ware.

Society Reunions at 2 P. M.

Military Drill at 3:30 P. M.

Business Meeting of Alumni Association at 5 P. M.

Alumni Banquet in Ulrich's Hall at 8 P. M.

Closing examinations, Saturday and Tuesday, from 9 A. M. to 12:20 P. M.

Public conveyance to and from College.

Dinner on Wednesday, served in Armory Hall by Ladies of the M. E. Church.

Accessions to the Library.

Farran System of Penmanship.

The Mercantile System, Gustav Schmöller.

Science of Finance, Gustav Cohn.

Positive Theory of Capital, Bohm-Bawerk.

Tupelo, by Aughey.

Kansas at the World's Fair.

Compiled Statutes of the District of Columbia.

Official Register of United States, 1895. P. O. Dep.

Report of Secretary of the Treasury, 1894.

Report of Commissioner of Education.

Report of Bureau of Animal Industry.

Report of Secretary of the Interior.

Report of Secretary of Agriculture 1894.

Report of Commissioner of Internal Revenue, 1894.

Report of U. S. Columbian Historical Exposition at Madrid.

Missouri Geological Survey, 1894.

The Locomotive, Vol. 16.

Agriculture of Massachusetts, 1895.

Agriculture of New York, 1895.

Agriculture of Georgia, 1895.

Agricultural Exp. Station, Texas, 1893 and 1894.

Agricultural Exp. Station, New York, 1894.

Report of Secretary of War.

Report of Secretary of Interior.

Statistical Abstract of the U. S. Year Book Dept. of Agriculture, 1894. Report of Commissioners of Dist. of Columbia. Report of Chief of Weather Bureau. Eleventh Census of the U. S. Transportation by Water. Agriculture by Irrigation. Rebellion Record, 4 Vols. Report of Interstate Commerce Commission. Official Opinion of the Attorney General. Transactions Pan-American Medical Congress. U. S. Coast and Geodetic Survey.

COLLEGE ORGANIZATIONS.

Student Editors.—Gertrude Havens, E. G. Gibson, F. E. Uh.

Alpha Beta Society.—President, M. G. Spalding; Vice-President, Clare Wilson; Recording Secretary, Ed. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce; Board of Directors, J. M. Westgate, Guy Hulett, Marian Gilkerson, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, C. D. McCauley; Vice-President, R. W. Bishoff; Recording Secretary, W. B. Chase; Corresponding Secretary, J. E. Trembley; Treasurer, W. T. Pope; Critic, S. Dolby; Marshal, W. H. Young; Board of Directors, J. B. Dorman, R. J. Peck, L. A. Nelson, J. G. Haney, F. Gregory.

Hamilton Society.—President, C. E. Pincomb; Vice-President, W. L. Hall; Recording Secretary, L. G. Hepworth; Corresponding Secretary, V. Maelzer; Treasurer, A. D. Coe; Critic, R. K. Farrar; Marshal, A. J. Pottorf; Board of Directors, C. S. Evans, H. M. Thomas, E. O. Farrar, G. W. Finley, B. H. Shultz.

Ionian Society.—President, Minnie Pincomb; Vice-President, Winifred Houghton; Recording Secretary, Sue Long; Corresponding Secretary, May Bowen; Treasurer, Flora Allingham; Critic, Maggie Carleton; Marshal, Bessie Lock.

May 23rd.

At the usual hour President Spalding called the Alpha Beta Society to order. The opening number on the program was congregational singing, after which Mr. Powell led in prayer. Cora Thackrey then gave an excellent select reading. This was followed by a declamation by Emma Stryker, which was well chosen and well delivered. The question, "Has Arctic Exploration been justified by its results?" was affirmed by G. D. Hulett and A. H. Morgan and denied by Mr. Folsom and P. H. Rader. The affirmative maintained that the study of the Arctic regions and the collections of animal life brought from there are of inestimable value in advancing scientific knowledge, and that when science is to be advanced, the cost in dollars and cents and the risk counts for little. Arctic exploration has aided in creating a spirit of enterprise and a love for knowledge. On the other hand, it was claimed that explorers do not in all cases have the advancement of science in mind. They are frequently actuated by unworthy motives; expense is heaped up and nothing gained. Others whose motives are good, often fail to accomplish anything. Expense and risk are always great and should be taken into account. The Society decided in favor of the affirmative. Declamation, Miss Channell. The Gleaner was presented by Alberta Dille. Its well-filled pages showed that the members of the first division had not been idle. After recess, Mr. Clothier rendered a violin solo. Under extemporaneous speaking, Rev. Lowe made a short address to the Society. The remainder of the session was devoted to business.

G. D.

May 23.

Roll call showed an unusually large number of Ionians present. After singing and prayer, Miss Swingle read an essay on "Mocking Birds," written by Miss Ashbury. Miss Channell then rendered a piano solo. The Oracle was edited by Miss Gertrude Rhodes. Miss Symms gave an amusing recitation entitled "The Slammering Shutter." Miss Mabel Crump, accompanied by Miss Perry, sang a very pretty vocal solo. The discussion, "That Congress Acted wisely in Recognizing Cuba as a Beligerent Power," was taken up on the affirmative by Miss Houghton. She told us that the treaty between Spain and the United States has no effect now, as it was broken by Spain during our Civil War. Cuba has showed herself successful in war, and has fulfilled the conditions of beligerency. Therefore she should be recognized. In speaking on the negative, Miss Ollie Long argued that Cuba had not fulfilled these conditions, as her soldiers do not meet the Spaniards face to face, but defeat them in little skirmishes. Congress took the action it did, before gaining any definite information as to the state of affairs in Cuba. In taking this action, Congress usurped the power of the Executive Department. The Third-year quartette rendered a pleasing selection, receiving an encore to which they responded. Miss Kneeland read a very interesting dream; telling of her trip to the moon. Miss Mary Norton, our Phrenologist, furnished amusement by giving the characteristics of several of our members who offered themselves for examination. Miss Perry closed the program with a piano solo.

M. H. B.

JOINT SESSION OF THE HAMILTONS AND WEBSTERS.

The Societies were called to order by their respective presidents. Roll call, which showed an absence of most of the Juniors, was barely finished when a sparkling and snapping in the incandescent lights startled the boys. The lights in the Hamilton room went out immediately, but in the Webster room they burned even more brightly, and for a time seemed beyond control. When the danger from fire had passed, the Societies jointly took up the work, the presidents being assisted by E. H. Webster who acted in the capacity of referee. The program was begun with a piano solo. The student trade. Special rates to clubs and large groups. Call and see samples. Oldest gallery, established 1859.

J. C. Bolton's select reading was entitled, "Voice Culture." The Webster Reporter was presented by G. G. McDowell. He had selected for his motto, "Woman is the fairest volume in all nature; the edition is large, and no man should be without a copy." A song was then sung by a quartette of the class of '99. Following this came the report of the critics, after which the remaining few minutes were devoted to unfinished business.

W. A. C.

Library.

The College library consists of over 13,000 bound volumes and about 4,000 pamphlets, and is valued at \$26,000. It has been selected mainly with a view to supplementing the class room instruction in the various departments. All the books are indexed in a card catalogue, so that the resources of the library upon any subject may be readily learned. All students have free access to the bookshelves, and may draw the books for home use, under simple and most liberal regulations.

The College subscribes for the leading literary, scientific, and agricultural journals; while the principal daily and weekly papers of Kansas and many from other States are received in exchange for the College publications. All these are kept on file for the use of students and Faculty.

The College has been designated as the depository of United States public documents for the Fifth Congressional District of Kansas. About 1,000 volumes have already been received on this account.

The library is open daily except on legal holidays. During the College terms, the library hours are from 8 A. M. to 4 P. M., and during vacation from 9 A. M. to 12 M. The Librarian or the assistant is in constant attendance, at these hours, to assist those who use the books.

College Business.

Loans upon school-district bonds are to be obtained from the Loan Commissioner.

Bills against the College should be presented monthly, and, when audited, are paid at the office of the Treasurer in Manhattan.

All payments of principal and interest on account of bonds or land contracts must be made to the State Treasurer, at Topeka.

The INDUSTRIALIST may be addressed through Pres. Geo. T. Fairchild, Managing Editor. Subscriptions are received by Supt. J. S. C. Thompson.

Donations for the Library or Museums should be sent to the Librarian, or to Prof. Popeno, Chairman of Committee on Museums.

Questions, scientific or practical, concerning the different departments of study and work, may be addressed to the several Professors and Superintendents.

General information concerning the College and its work, studies, examinations, grades, boarding-places, etc., may be obtained at the office of the President, or by addressing the Secretary.

The Experiment Station should be addressed through the Secretary

MANHATTAN ADVERTISEMENTS.

BOOKS AND STATIONERY.

R. E. LOFINCK deals in new and Second-hand Text-books and School Supplies of all kinds, gold pens, etc.

VARNEY'S BOOK-STORE.—Popular Head-quarters for College Text-Books and Supplies. Second-Hand Books often as good as new. Call when down town. Always glad to see you.

L. E. SMITH. College and School Books and Stationery. Note-books, tablets, inks, pens, pencils, drawing instruments, etc. Also a full line of reliable boots, shoes, slippers, and rubbers. Prices are low.

DRY GOODS.

E. A. WHARTON'S is the most popular Dry Goods Store in Manhattan. The greatest stock, the very latest styles, the most popular prices. Always pleased to show goods.

CLOTHING.

E. L. GARRETSON, Clothiers and Furnishers, invites students and all other College people to call and examine their large stock of new goods. All the desirable things in men's wear. Latest styles in every department.

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WHY SHOULD DRAWING BE TAUGHT IN THE PUBLIC SCHOOLS?

BY PROF. J. D. WALTERS.

IT should be taught because of its educational and disciplinary value; i. e., because it develops the child's perception, conception, imagination, judgment, and reason. When drawing is properly taught, the powers of observation are directly cultivated, as, perhaps, in no other school work. It requires accurate comparison between different objects and different parts of the same object, and in this way fixes by agreeable exercise one of the most valuable habits of the mind. It trains the child to remember forms and to rearrange these into new combinations, and thus becomes a powerful aid in the cultivation of reason and imagination. When, by progressive exercises, the child discovers that he has gained the ability to arrange and rearrange lines and forms and to create new figures and designs, his imagination is incited and his whole mind is aroused to greater activity in the pursuit of knowledge.

Drawing educates the aesthetic faculties of the mind. It begets taste which is but "the recollection of the beautiful." It elevates the child to an appreciation of order, balance, symmetry, repetition, radiation, tangential connections, graceful curvature, harmony of color, agreeable distribution of light and shade, etc. Like music and literature, it becomes a moulder of the soul. What a pity that this influence is so generally underrated by the parent, and so insufficiently understood by many teachers.

Drawing should also be taught on account of its practical value. It is the language of form, and therefore the key to every artistic, engineering, and industrial pursuit. Everything that is well-made today is made from a drawing. Every bridge, with all its beams and braces, every building, with all its details, every machine with all its parts, every textile or wallpaper design, every tool used in the shop or the field, every household utensil, yes, every simplest and commonest thing on the shelf of the general store of today, existed first in the form of a carefully made drawing. The time of tinkering is past, and the laborer of the present is generally rated from his ability to make and read drawings. As the educators of the coming America, the teacher of the present should realize that the old system of apprenticeship, with its bright and dark aspects for the young mechanic, has departed never to return. Something else must take its place or the industrial life of the nation, not yet as firmly developed as it should be, will gradually decay. The value of real estate has ceased to increase; railroad building has received a lasting check; we must now learn to manufacture, and, if possible, to export.

Many people are unable to understand arguments presented from the educational or aesthetic point of view, but all can comprehend that it is better to keep at home the two hundred millions of dollars which America now sends to Europe annually for products of fine and industrial art. This economy can be practiced by manufacturing these things on our side of the Atlantic.

But it is not enough that there should be a few artistic designers and skilled foremen; the whole people must be educated to appreciate beauty. Taste must become general; art must be applied to the simplest and commonest object. Whatever view one takes of the tariff—whether he assumes that it taxes the importer or the consumer or both, he ought to be able to see that our laborers can become designers and makers of beautiful things only through a better and more proper education.

In 1893-94, the last year for which the author has been able to obtain complete statistics, the United States imported from Europe, China, and Japan the following partial list of such articles:—

Books, maps, etchings, engravings	\$ 3,996,085
Millinery goods, corsets	2,059,694
Art flowers, feathers, buttons, and hair articles	4,169,292
Needles	337,272
Firearms	170,084
Matting	1,637,473
Coiaryarn	161,449
Paintings and statuary	2,030,599
Brass articles	242,564
Brushes	797,905
Watches and clocks	1,930,538
Copper articles	748,932
Cotton goods	4,645,667
Clothing, laces, knit goods	28,323,725
Earth, stone, and chinaware	8,707,463
Flax and hemp goods	28,931,189
Fur goods	6,844,746
Glassware	8,757,650
Gutta-percha and rubber goods	19,779,482
Iron and steel articles	28,423,883
Jewelry and precious stones	17,732,339
Leather articles	6,812,607

Marble articles	1,385,801
Musical instruments	1,027,212
Paper articles	3,342,304
Toys	2,475,971
Woolen goods	35,565,598

A glance at this column, and a comparison of it with the list of exports, shows that, notwithstanding the favorable annual balance of about two hundred millions of dollars, we are placed at a great disadvantage. We are exporting cotton, wheat, pork, beef, hides, oil cake, tobacco, metals, coal oil, agricultural implements, rough castings; i. e., food substances and raw materials, while we are importing superior skill and better taste. The often published comparisons of wages of American and European laborers are misleading in that they usually overlook the fact that the laborers of Geneva or Sheffield or Dresden or Paris are to some extent of a different class from those of Pittsburg or Chicago or St. Louis. The former are mostly artizans, who may work twelve months a year, while the latter are mostly "hewers of wood and drawers of water," who, from the character of their work, can do nothing in winter. The manufactures for which a country should contend are those in which raw materials count for little and skill and taste count for much. These can be produced at all seasons of the year. They may be transported from place to place with little effort or risk; and their consumption is not limited like that of articles of food, but may be increased indefinitely by increasing wealth and taste.

The foundation for American industrial supremacy must be laid in the public school—there only can it be laid broad and deep.

SYNOPSIS OF FIELD EXPERIMENTS UNDER WAY AT THE KANSAS STATION.

BY PROF. C. C. GEORGESON.

IT may interest our readers to have a brief outline presented to them of the experimental work now under way in the Farm Department of the Experiment Station. Essentially the same lines of experiment are carried out every year.

EXPERIMENTS WITH WHEAT.

The following lines are under way:—

Time of Seeding.—Five plats were seeded on each of the following dates: September 13, 20, 27; October 4, 11, 18, 25; and November 1; forty plats in all. The variety used is the Zimmerman, an early, smooth, red wheat. Each plat is one twentieth of an acre in extent; and in this, as in other cases, the plats are distributed in such a manner that the conditions as regards quality of soil, exposure, etc., shall be the same for all methods of treatment. June 6th the earliest seedings are nearly ripe.

Wheat on early and late plowed land.—Four plats are devoted to a test of the respective merits of this treatment, each plat being one third of an acre in extent. The early plowing took place July 20th; the late plowing, September 3rd. Variety, Zimmerman.

Wheat on subsoiled and plowed land.—This experiment covers three acres. There are six plats under each treatment, each plat one quarter of an acre in size. The land was subsoiled fourteen inches deep on August 7th and 8th, 1895, and the plowed plats plowed 7 inches deep at the same time. All plats were seeded September 18th, with Zimmerman.

Amount of seed wheat per acre.—Seven series of plats were seeded September 19th with Zimmerman wheat; five plats in each series at the rate of from two to eight pecks to the acre. Beginning with two pecks, the next series has three pecks, and so on up to eight; thirty-five plats in all.

Methods of seeding.—The methods of broadcasting, listng (with the Hollinger lister drill), seeding with hoe drill, and with shoe drill, are tried on twenty plats, seeded September 20th with Rudy wheat.

Grading seed wheat.—Three grades of seed are used, denominated light, heavy, and common, respectively. The common grade is the wheat as it comes from the thresher, and this grade is separated into light and heavy on the fanning mill; five plats to each.

Pasturing wheat.—Three series of five plats each, of which one is pastured in the fall, one in the spring, and one not pastured at all. Seeded to Early Red Clawsou, September 20th.

Variety test.—Thirty-four varieties were seeded September 21st, side by side on forty-seven plats.

Wheat continuously without manure.—The "experimental acre" is still seeded to wheat annually. The first crop was harvested in 1881, the present is therefore the sixteenth successive crop. Of these, three have been complete failures from winter-killing.

Wheat in rotation.—The rotation experiments, of

which wheat forms the main crop, cover seven acres of land, divided into seventy one-tenth acre plats, on which fourteen rotations are under test. The plan requires too much explanation to make it practicable to produce it here. The work has as yet not proceeded far enough to enable one to draw reliable conclusions from the data at hand.

The total number of plats under wheat experimentation is two hundred and fifty-nine.

EXPERIMENTS WITH OATS.

Our work with oats is in the main like that outlined above for the wheat, though the lines of experiment are not so numerous.

Preparation of land.—This covers thirty-five plats in seven series, as follows: Fall plowed land, spring plowed land, land not plowed, disced, worked with cultivator, seed listed, seed disced in. These plats were seeded with Red Georgia oats, March 21st.

Time of seeding.—Oats were seeded at intervals of one week from March 2nd to April 27th, nine seedings of five plats making a total of forty-five plats. The earlier seedings promise the best yields. Variety, Pedigree Red Rust Proof.

Amount of seed per acre.—Thirty-five plats were seeded to Red Georgia oats, March 23rd. The amount of seed put on the seven series varied by one-half bushel from one bushel for the first series, one and a half bushels for the second, and so on up to four bushels per acre.

Methods of seeding.—Broadcast, hoe drill, shoe drill, shoe drill with press wheels, and listed, five plats to each. Seeded March 25th with Red Georgia oats.

Quality of seed.—Seed graded into light, common, and heavy, and seeded March 26th to Red Georgia oats on fifteen plats.

Test of varieties.—Forty varieties are tested on fifty-one plats, seeded March 24th.

Test in the variation in the amount of smut.—This is tried in conjunction with the Ohio Experiment Station by whom the seed was furnished; eight plats.

Comparison of yield of barley and oats.—Four varieties of barley are compared with each other and with Red Georgia oats on ten plats. Altogether there are two hundred and eight plats in the above experiments.

EXPERIMENTS WITH CORN.

Comparing subsoiled with plowed land for corn.—Six plats were subsoiled with the new "Secretary" combined disc and subsoiling plow, and alternating with these six plats plowed in the ordinary way. These plats were planted to Leaming corn, May 1st.

Seed from butt, middle, and tip.—Nine plats are comprised in this experiment, three to each of the above kinds of seed. The plats run across the subsoiled and plowed land; planted to Dole 90-day corn, May 7.

Comparison of early, medium, and late varieties.—Three varieties, Extra Early Huron Dent, Mastodon, and Golden Beauty, are grown in comparison on twelve plats, four plats to each, with a view to ascertain which is most profitable. Planted May 6th.

Amount of cultivation.—This contemplates ascertaining how many cultivations are profitable. There are six series of plats cultivated respectively from one to six times during the season; repeated four times; twenty-four plats in all. Planted with Leaming corn, April 30th.

Deep and shallow culture.—Comparison of these methods tested on twelve plats. Planted to Leaming, May 6th.

Corn on old and new subsoiling.—The object is to measure the influence of subsoiling as time passes. Fifteen plats have been subsoiled at different times during the last two years, compared with fifteen plowed plats. Planted to St. Charles corn, April 27th and 29th.

Spring plowed and fall plowed land for corn.—Comparison of this preparation on six plats. Planted to St. Charles corn, April 27th.

Variety test.—Forty-four varieties are tested on forty-eight plats. They were planted May 8th and 9th.

The corn experiments comprise a total of one hundred and fifty-one plats.

EXPERIMENTS WITH KAFFIR CORN.

Comparison of corn and Kaffir corn.—St. Charles and Leaming corn are compared with red and black-hulled white Kaffir corn for grain on sixteen plats. Planted May 12th and 18th.

Comparison of corn and Kaffir corn for forage.—The same varieties are planted closer with a view to compare yields of forage. Sixteen plats, planted May 18th.

SOY BEANS.

Seven varieties of soy beans, and one of cow peas were planted May 19th.

GRASSES AND FORAGE PLANTS.

Besides the above, thirty-five varieties of grasses

and forage plants were seeded on as many plats. Many of them, however, have failed to grow.

The total number of plats under experiment on the Farm run up to six hundred and ninety-three.

OBJECTIONABLE LITERATURE.

BY ALICE RUPP.

THAT every great good has its correlative evil is a fact too well authenticated to need any proof of mine. America boasts of her schools, and proudly affirms that every child born within her borders may at least learn to read and to write the English language; yet statistics prove that even in Massachusetts and the other States, where attendance at school is compulsory, is found much illiteracy.

The farmer, while viewing with just pride his ripening orchard, knows that he will find not only fair and wholesome fruit, but much that is blighted and worm-eaten. Quite like the plum, peach, and apple tree in the farmer's garden, is America's tree of knowledge. Here is produced not only the pure-minded and intelligent fruit whose unavailing effort is the betterment of the human race by uplifting the child surrounded by degradation, thus giving to each immortal soul an equal chance; but at the same time is sending out in startling quantities the fruit of corruption and vice to poison the mind and defile the morals.

In this, the dawn of the twentieth century, books are not mere bric-a-brac—expensive, useless articles to be seen, but never touched; nor must the over-zealous mother offer her child great reward for reading, as did the fond parent in King Alfred's time. Oftener must the little fellow be brought to lay aside the fascinating volume that he may take the necessary physical exercise.

In studying education, we find that it is not the mere accumulation of facts. If this were true, then would a few standard reference books be a sufficient library. On the contrary, education is the craving of the heart to know what others are doing; to add to its experience the experience of others. Could this craving be satiated by abstract truths, biographies and histories would furnish the nutriment. But histories deal with the complex problems of state and nation; biographies, with the lives of geniuses; and how very rarely do our boys and girls care for either of these. It is the bright, fresh, racy story that pleases and interests the heart from babyhood to old age. As soon as the little lips can form words, it is "Tory, please, mama," while the youth cries, "Commend me to the exciting novel," and the man of riper years voices the same desire in the anxious inquiries, "Anything new?" "What's going on today?" etc.

Stories, then, have been invented and cultivated to supply man's wants, and are as great a necessity for his mental growth as nutritious food is for his physical development; and like vegetation varies its form to suit the circumstances and tastes of each individual in each period and phase of life.

David Swing, in his "Old Pictures of Life," defines literature as that thought which is universal, true literature being universal truth. Now, this definition is very applicable to the writings of Homer, Dante, Milton, Shakespeare, and others who write like men dealing with great questions and large affairs. They are not inspired by one small passion, love; but hate, revenge, ambition, avarice, all play their part; hence their works are at home in many languages, universal, as it were, because they are the writings of the heart. It is not, however, the intention to write of this class of stories that inspire the soul with high ideals, that fill the mind with a store of noble thoughts in well wrought words; that "are even open gateways of beauty through which often appear the holiest truths of life." They are well known, and duly appreciated by their multitude of ardent admirers, but it is of that other class, "Objectionable Literature, whose name is legion and whose influence is as boundless as time," that I would speak.

Objectionable literature, as here used, includes all those stories found anywhere and in any form that tend to stimulate the imagination with all sorts of impossible things that never did nor could exist in actual life, and thus keeps the mind of the reader in a perpetual excitement to know something beyond the stupid everyday routine that the boy or girl in the school room, on the street, in the workshop, or in the home must endure. Dress it as you will in the columns of the "Fireside Companion," "Comfort," yellow backs, or the lower form of novel, the influence is just the same, and the material objectionable, whether it be of a highly sensational order or intensely insipid. The boys are carried away with the stories of Indian warfare; the lives of western desperadoes; the adventures of pirates, and the crimes

of highwaymen; the ideal life of vagabond boys and the wild behavior of dissipated ones in the cities. All of these, besides the many volumes of absolutely obscene literature, are eagerly sought and read by boys and girls. The girls slight duties and sacrifice sleep that they may pour over these novels where the affection of the sexes for each other is treated as though it were the only element of interest in the human life. With this objectionable literature is the mind surfeited till the brain is consumed, the intellect distorted, reason fled; and the emotions, like a pent-up volcano, are ready to burst forth at the most inopportune moments. These books, like the mirage of the desert, are filling the minds of the girls with delusions that distance intensifies and contiguity destroys. When tempted from friends and home, meager, homely homes though they be, by these will-o'-the-wisps, how quickly do girls learn their mistakes. Results? You all have seen and heard as well as I. We know but too well the sad lives, the miserable, loathing wrecks, that are so often the harvest of the early sowing by this pernicious literature. Drunkenness is incomparable to these fair flowers—stained, blighted, withered, wasted, ere life has scarce begun. Here is an existing evil, objectionable literature, against which should be rained the shot and shell of legislative power and eloquence.

The desire for this objectionable literature is formed when the mind is as impressionable as wax and as retentive as marble; here, as well as elsewhere, is the familiar rhyme,

"Sow a practice, reap a habit;
Sow a habit, reap a character;
Sow a character, reap a destiny"—

applicable. We must not deceive ourselves into believing, however much we may desire to do so, that objectionable literature for boys is confined to the idle and vicious street Arab of the large cities. On the contrary, I have found it as hidden treasures among school children (once in the hand of a college youth) whose parents were very careful about the influence brought to bear on their offsprings. Could the hay loft, back alleys, secreted nooks, and hidden corners tell their tales, what paralyzing truths they could reveal. Reading, unlike cigarettes, whisky, etc., cannot be detected by the strong odor, unsteady step, and trembling hand. So the practice is thoroughly formed ere the parents are aware the seeds have been sown.

If the stomach be cooked with alcohol, the physician can prescribe, and wonderful are some of the cures effected. Cases have been known where men, from the constant and excessive use of strong drink, were veritable lepers; yet medicine did its work, and life was prolonged many years. But what power can minister to a sane mind diseased!

No force nor influence can undo the work begun by this objectionable literature. Father's pleadings and mother's prayers are as "pearls cast before swine." Neither money nor honor is a temptation to lure them from the whirlpool toward which their frail bark is headed; yea, nothing, not even the fear of suffering or disgrace, is an overmatch for the enchantment conjured up and sustained by these exciting volumes. A single book, filled with the false fascinations of the sea, tempts the boy to leave home under cover of night that he may become a sailor, perhaps a pirate, miserable in his life and death. Others ponder over these volumes till they are haters of their brother man and "blasphemers of their God." Others are so entranced by the fire-flies of the gambler's life that first they visit, then become members of, the gamblers' hell; while others steal, drink, and commit murder till the Mayors of New York, Philadelphia, and other cities are emphatic in saying that if all objectionable literature could be swept from the face of the earth, the reform schools and prisons would be emptied of the greater part of their inmates.

Boys from nine to seventeen years of age wreck passerby trains for plunder; murder parents and companions on the slightest provocation for notoriety; practice incendiarism almost in one's very presence. And why? Because the brain, continuously stimulated by the intoxicant sensationalism, is positively fierce in its desire to commit the desperate deeds readabout. Are these poor boys, steeped, as it were, in these objectionable stories wholly responsible? Surely not. They are not themselves; they are other beings modelled after the imaginative hero. They are as truly insane and irresponsible as the drunkard who commits some foul deed, and is excused by the law because of his inebriate condition. The boys, however, must suffer the penalty attaching itself to the offence, even though it be the ignominious death on the scaffold, and all because objectionable literature fascinates and fixes the attention, charms and holds the mind till the passions, the emotions, the desire for notoriety steals from them all that is good and pure and holy. The boys must be helped. Where and when and how the effective blows may be struck in order to accomplish the most good are potent and vital questions that we hope some good Samaritan will answer.

Calendar.

1895-96.
Fall Term—September 12th to December 20th.
Winter Term—January 7th to March 27th.
Spring Term—March 30th to June 10th.
June 10th, Commencement.
1896-97.
Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

Riley County Teachers' Institute begins Monday.

Mabel Cotton, Senior, visited home the first of the week.

Lucy Cottrell, Second-year, spent the holiday at home.

Class Day programs were distributed the first of the week.

W. B. Henson, First-year, enjoys a visit from his sister of Paola this week.

Lena Pincomb is visiting with her brother and sister, Charles and Minnie.

Capt. Cavenaugh now lives at the corner of Leaveworth street and Juliette avenue.

Rev. Mr. Veaze of the Congregational church led in devotion at chapel Tuesday morning.

Myrtle and Emma Stryker enjoyed a visit from their aunt, Miss Morrill, of Miami county.

Mr. T. M. Wood, a graduate of the State Normal and one of Morris County's enterprising teachers, visited College this week in company of W. H. Phipps, '95.

Among those who visited chapel exercises today were Misses Stella Kimball, Verta Cress, Bertha Spohr, Jessie Whitford, Florence Baker, and Rev. Mr. Lowe, Harry Whitford, and Mr. Smith.

The Alpha-Beta Society generously allows the Fourth-years to present the following program this afternoon: Address, "Hope," Etta Ridenour; Symposia—First Years, A. E. Ridenour; Second Years, A. C. Havens; Third Years, W. E. Thackrey; Fourth Years, Mary Painter; Post Graduates, A. H. Morgan; The Faculty, E. A. Powell; Gleaner, Hattie Paddleford; Impersonation, Elva Palmer; Prophecy, J. J. Fryhofer; Fourth Year Chorus; Toast, Inez Palmer; Response, J. C. McElroy.

The Sixth Division of the Third-year Class closed the public exercises in chapel for the year Saturday afternoon, as follows: "Woman on Wheels," Wilhelmina Spohr; "Thoughts on the Inheritance Tax," V. Maelzer; "A Civilizer," Eva Philbrook; "The Star of Napoleon," Phoebe Smith; "A Use of Gold," R. M. Philbrook; "Gossip," Louise Spohr; "Religion in Schools," E. Emrick; "Elements of Success," A. B. Symns; "A Use of Slang," Hattie Thackrey; "Earnestness," Clare Wilson; "The Specialist," J. B. Norton. The music consisted of a piano duet by Messrs. W. J. Rhoades, and R. J. Peck and a selection by the Cadet Band.

Secretary Clendenning of the Kansas City Commercial Club has this to say of the College, of which he had a glimpse during the Club's visit two weeks ago: "The State of Kansas has many institutions of which to be proud, and none take a higher rank in the estimation of Kansas City people than the Agricultural College at Manhattan. Practical farming is here taught in every branch, as well as mechanical industries. Young women are here taught to cook, sew, and keep house, and it was our opinion that the young man fortunate enough to obtain a wife who had obtained her education at Manhattan, would be a happy man the rest of his days. Kansas is proud of her educational institutions of every character, and in many of the towns which we visited we found from one to three colleges, and in all the towns their public school buildings were their pride."

GRADUATES AND FORMER STUDENTS.

Lillie Dial, '95, is visiting with her brothers.

Fred Hulse, '93, of Keats, visited here Monday.

Laura McKeen, '95, is kept from her college duties by sickness.

C. D. Adams, '95, greets his old friends about College this week.

C. C. Smith, '94, greets College friends after a year at De Pauw University.

Fannie Waugh, '91, is visiting College and her sister Mary, First-year.

Carrie Staver, Second-year in 1894-5, is present to attend Commencement exercises.

W. E. Smith, '93, and Jennie R. Smith, '94, are elected to the Manhattan City Schools for next year.

J. E. Thackrey, '93, now a student at the De Pauw University, is home to visit and attend graduating exercises.

A. Dickens, '93, for three years past a successful teacher in Rice County, has received the nomination for Superintendent of Public Instruction on the Republican ticket.

W. H. Olin, '88, was at College for a few days this week, visiting with his brother, Prof. Olin. For three or four years past, Mr. Olin has been superin-

tendent of the Osborne Schools, and was last week elected Principal of the Ottawa High School. He will conduct the Holton Teachers' Institute, beginning Monday.

Invitations are issued for the marriage of C. A. Campbell, '91, and Caroline V. Lovell, at Huntingdon, Pa., June 18th.

H. G. Pope, '94, who spent much of his industrial time in the printing office while here, has been chosen editor of the *University Lawyer* at Kansas University for the coming year.

J. E. Taylor, '93, died at Baldwin Sunday morning, the 31st ult. He was soon to graduate from the Normal Department of Baker University. His death is mourned by all who knew him.

Lottie Short, '91, sends Mrs. Kedzie a specimen of her handiwork, a beautifully wrought drawn center piece of fine linen made during spare moments from her duties as Professor of Domestic Economy at Tome Institute, Port Deposit, Md.

E. C. Pfuetze, '90, Superintendent Burlington Water Works, and C. F. Pfuetze, '93, postal clerk on the Kansas Southern Railway, were in town this week to attend the wedding of their brother Herman of Randolph, to Miss Meta Detmer.

C. J. Dobbs, '90, and Nellie Little, '90, were married, June 3rd. G. E. Stoker, '90, officiated as groomsman. Mr. and Mrs. Dobbs will make their home in Topeka, where the groom, in partnership with Mr. Stoker, his classmate, has built up a fine law practice.

Members of '95 and other friends are interested in the following birth card, received this morning: "Wilma Winter, Blue Rapids, Kansas. Born 8:30 A. M., Tuesday June 2nd, 1896. Weight, 8½ pounds." The happy mother, Dora Thompson-Winter, is reported as doing well, as is also the third member of the family.

Entomological and Zoological Notes.

Twenty-five fine species of Lower Silurian fossils, mostly represented by several specimens each, have been obtained by exchange from G. D. Lind of Lebanon, Ohio.

Mrs. I. D. Goodnow presents to the museum a buffalo hair lariat given to her husband in 1855 by the Indian squaw who made it.

G. W. Monahan presents to the museum a large fossil core of a buffaloe's horn, found near the Wildcat about five miles west of Manhattan.

Hon. H. P. Dow sends from Vance, Washington, his present home, a live specimen of a remarkable species of the family Inidae of the Myriapoda.

A large quantity of the seventeen-year locusts, Cicada septemdecim, have been collected in various stages of development, and preserved in alcohol for future use in the classroom.

An examination of the cottonwood trees on the 26th and 27th, show the larvae of the cottonwood borers just changing to the pupa stage.

The apple trees, denuded of their leaves by the canker worm during the latter part of April, are in leaf again, but will bear no fruit this year.

Clarence R. Hepler, Second-year in 1893-4, sends a horned toad to the museum from Albuquerque, N. M., where he has employment in the A. & P. Hospital Association.

Francis Harrold of Riley presents the department a fine specimen in the form of a bittern.

A number of specimens of the wheat-head army worm, brought in from Rice County by Mr. Dickens, find a place in the breeding cages.

The following donations have been received during the last month: Emory's racer, garter snake, copperhead, water snake, and blue-tailed skunk, by Joe Reyburn; black snake, by Mr. McDowell; live copperhead and striped garter snake, by Jesse Norton; ring snake and *Tropidoclonium*, by Prof. S. C. Mason; saw-whet owl and horned toad, by Prof. E. A. Popeno; ground squirrel, by J. C. Bolton; spotted Salamander, by Mr. Drown; horned toad, by A. C. Miller; great hoary bat, by F. H. Meyer; rosy gull, by Ben Rehfeld; jumping mouse, by W. Marlatt; two opossums, by Messrs. Heywood and Rice; black snake, by Mr. Stokely; horned toad, king snake, green frog, six-striped lizard, and black snake, by F. A. Marlatt and C. W. Pape.

Field Day.

Several hundred persons witnessed the first field day exercises of the students at the City Park, on Monday afternoon. A wet track made it necessary to postpone the bicycle race. The other events were presented in the following order:

100-yard dash—W. A. Cavenaugh, first, 11½ seconds; F. V. Dial, second.

Pole vault—F. V. Dial, first, 7 feet 11½ inches; F. L. Howard, second; O. A. Stingley, third.

Base ball throw—N. M. Green, first, 326 feet 10 inches; F. L. Howard, second; A. L. Peter, third.

Standing broad jump—W. A. Cavenaugh, first, 11 feet 5 inches; Dial, second; Rogler, third.

Running broad jump—F. V. Dial, first, 17 feet ½ inch; W. A. Cavenaugh, second.

Hammer throw—H. G. Johnson, first, 67 feet 7 inches; N. M. Green, second; E. M. Haise, third.

220-yard dash—P. Fox, first, 25 seconds; M. Wolf, second; W. G. Tulloss, third.

440-yard run—O. E. Noble, first, 60 seconds; J. B. Dorman, second; R. H. Brown, third.

Shot put—W. A. Cavenaugh, first, 31 feet 2½ inches; E. M. Haise, second; F. L. Howard, third.

Half-mile race—F. V. Dial, first, 2:21; P. Fox, second.

Running high jump—W. A. Cavenaugh, first, 4 feet

11½ inches; F. V. Dial, second; F. H. Day, third. Mile relay race—Fourth-years, A. L. Peter, L. W. Hayes, O. A. Stingley, J. D. Trumbull; Third-years, R. H. Brown, P. Fox, F. V. Dial, O. E. Noble. Third-years won in 4:21.

Total points—Fourth-years, 43; Third-years, 47; Second-years, 14.

Referee, Dr. Mayo; Scorer, M. Kirkpatrick; time-keeper, W. B. Henson.

Shop Notes.

The sulphurous fumes that have prevailed the shop's atmosphere for the past few days are not due to any inherent evil in employees or students meeting its punishment, but came from the coal pit—150 tons of coal were piled in the pit, filling it to the roof. The last loads being wet when put in, became heated, and took fire. The whole mass has been wheeled out and still persists in burning. Fireman Lund has to keep a hose ready to turn water in at any time to keep it from bursting into a flame.

Quite a substantial showing can be made of completed work in both wood and iron shop for commencement week.

Geo. L. Christensen has taken up the dynamo, the castings of which were made several years ago, and will complete the job.

The office is crowded with plans for the various repairs and fixings which make the shops especially active during the summer.

Plans for the irrigation pump-testing plant are being perfected, and in a few weeks will be ready to secure pumps from manufacturers and others to test as to their efficiency, power required, etc.

E. H. WEBSTER.

Program of Commencement Week.

SUNDAY, JUNE 7.

Baccalaureate Sermon, by President Fairchild, at 4 P. M.

MONDAY, JUNE 8.

Address before the Societies, by Dr. Bernard Bigsby of Detroit, at 8 P. M.

TUESDAY, JUNE 9.

Class Day Exercises for Invited Guests at 4 P. M. Address before the Alumni Association by Prof. Frederick J. Rogers ('85) of Cornell University, at 8 P. M.

WEDNESDAY, JUNE 10—COMMENCEMENT DAY.

Commencement exercises at 10 A. M.

Annual Address, by Hon. Eugene F. Ware.

Society Reunions at 2 P. M.

Military Drill at 3:30 P. M.

Business Meeting of Alumni Association at 5 P. M. Alumni Banquet in Ulrich's Hall at 8 P. M.

COLLEGE ORGANIZATIONS.

Student Editors.—Gertrude Havens, E. G. Gibson, F. E. Uhl.

Alpha Beta Society.—President, M. G. Spalding; Vice-President, Clare Wilson; Recording Secretary, Ed. Shellenbaum; Corresponding Secretary, Grace Dille; Treasurer, Lucy Cottrell; Critic, J. C. McElroy; Marshal, May Pierce; Board of Directors, J. M. Westgate, Guy Hulett, Marian Gilkerson, Bertha Ingman, C. W. Shull, Lucy Cottrell, P. H. Rader.

Webster Society.—President, C. D. McCauley; Vice-President, R. W. Bishoff; Recording Secretary, L. G. Hepworth; Corresponding Secretary, J. E. Trembley; Treasurer, W. T. Pope; Critic, S. Dolby; Marshal, W. H. Young; Board of Directors, J. B. Dorman, R. J. Peck, L. A. Nelson, J. G. Haney, F. Gregory.

Hamilton Society.—President, C. E. Pincomb; Vice-President, W. L. Hall; Recording Secretary, L. G. Hepworth; Corresponding Secretary, V. Maelzer; Treasurer, A. D. Coe; Critic, R. K. Farrar; Marshal, A. J. Pottorf; Board of Directors, C. S. Evans, H. M. Thomas, E. O. Farrar, G. W. Finley, B. H. Shultz.

Ionian Society.—President, Minnie Pincomb; Vice-President, Winifred Houghton; Recording Secretary, Sue Long; Corresponding Secretary, May Bowen; Treasurer, Flora Allingham; Critic, Maggie Carleton; Marshal, Bessie Lock.

May 30th.

The Webster Society was called to order for its last regular meeting of the year, by Pres. McCauley. After roll call, Ed. H. Webster led in prayer. The program appropriate for the occasion, was opened by C. D. McCauley, who gave, in an interesting manner the history of Decoration day. The title of Mr. Hutchinson's declamation, was "The Balus in the Woods." "What Memorial Day Means to Us" was the subject of an oration given by Ed. H. Webster. It was given in a manner that comes home to us all. O. S. True as music committee presented a First-year quartette that sang "The Fading Coat of Blue." L. W. Hayes, appeared with an Original Story: "Last Decoration Day." The Fourth-years were called upon in turn for short speeches. They promptly responded, some regretting that they are to leave us and others feeling that they have finished their Society work as they have their college work. After recess, C. H. Stokely presented an excellent edition of the Reporter. It was almost throughout devoted to the occasion, and showed the effect of careful work. Its motto, "Stand up for your colors,—the red, white, and blue." L. W. Hayes was called upon for a vocal solo. He responded with "Won't you be my Sweetheart," and to an encore with "Loves Old Sweet Song." The rest of the evening was taken up in preparing business affairs for another year.

J. E. T.

May 30th.

The Hamiltons were called to order for the last time in regular session for this college year promptly at eight o'clock by President Pincomb. Roll call. Devotion, A. D. Coe. After the reading of the minutes and the transaction of the regular routine of business, the program of the evening was dropped in order to give more time to discuss our revised constitution as reported by the committee. The Society considered the change made by the constitutional committee with a deliberation due to so weighty a

subject. When the time to adjourn was near at hand the By Laws were just reached, and it was decided to drop them, to allow the Seniors to make their farewell speeches. The long list that responded was headed by the Society president. They spoke of various things, some of the growth they had seen and had themselves made in Society, some gave good paternal advice, some let their past speak for them, while still others expressed their desire to see the Society maintain its high position and climb still higher. All were sorry that they must leave Society. The talks were as pleasant to listen to as a variegated landscape is to look at. Although the lights were turned out and the small candles flickered and burned dimly, the affectionate spot for the Society in the heart of every Hamilton, especially the Fourth-years, burned brighter and brighter as the volumes of love, pathos, and extollation flowed from our retiring guides and leaders. When the Society adjourned, at a late hour, all felt another year of successful society work had ended.

V. M.

Only a Few Peers in the World.

It is often remarked, and is undoubtedly true, that if the young men and young women on the farms of Kansas could be informed so as to be able to fully realize the advantages provided for their education at the State Agricultural College, the present dimensions of the building would accommodate but a small fraction of those who would attend. But is it not possible to convey in a newspaper article or in any other writing an adequate idea of this institution. It cannot be compared with any other school in the State, and has only a few peers, in its line of work, in the world. It is planned in every detail to meet the educational needs of the young men and the young women from the farm, to furnish them such training as will best fit them for the activities of life in any station, and especially for those of farmers. The earnestness, industry, thrift, and economy of farm life are in fashion at this college. Here is also exemplified the truth that these noble characteristics of the country are in perfect harmony with culture, refinement, and the courtesy characteristic of the best bred people. There is enough of farm work and work of the kinds which the farmer should know how to do to preserve the connection between the material and the intellectual sides of life and for purposes of instruction not to be had from books and apparatus alone. The equipment of the college with illustrative apparatus is good, and growing more complete each year. The farm, stock, orchards, vineyards, etc., the shops, and printing office and other appliances of practical utility are made subservient to the instruction of students.—*Kansas Farmer*.

The Weather for May, 1896.

By C. M. BREESE, OBSERVER.

A warm, wet, windy month. But two Mays have exceeded this in amount of rainfall, but five in temperature, and but one in wind. The wet weather prevailing almost constantly throughout the month delayed corn planting considerably at the first, and the cultivation of the same crop at the last; much corn has been gone over once, and in general it is a good stand, and promises well. Stock in pasture is doing well. First alfalfa crop was harvested under difficulties, and on bottom lands with poor drainage, a great deal has not yet been cut. Not very much of it was put up without getting rain on it. Wheat is ripening, and looks fairly well, the harvest will begin by June 10th; the rust is attacking many fields quite severely. Oats are heading well.

Temperature.—The mean temperature was 68.63° , which is 4.53° above the normal. The highest temperature was 93° , on the 27th; the lowest, 40° , on the 2nd—a monthly range of 53° . The greatest daily range was 40° , on the 2nd; the least, 10° , on the 19th. The mean daily range was 22.6° . The warmest day was the 24th, the mean temperature being 81.25° . The coldest day was the 1st, the mean temperature being 55° . The mean temperature at 7 A. M. was 64.06° ; at 2 P. M., 78.52° ; at 9 P. M., 65.97° . The mean of the minimum thermometer was 81.16° ; of the maximum, 58.58° ; the mean of these two being 69.87° .

Barometer.—The mean pressure for the month was 28.685 inches, which is $.035$ inch below normal. The maximum was 28.944 inches, at 7 A. M. on the 28th; the minimum, 28.399 inches, at 2 P. M. on the 12th; monthly range, $.545$ inch. The mean at 7 A. M. was 28.693 inches; at 2 P. M., 28.696 inches; at 9 P. M., 28.667 inches.

Cloudiness.—The percent of cloudiness was 43.01 . This is normal. The percent at 7 A. M. was 48.39 ; at 2 P. M., 45.16 ; at 9 P. M., 35.48 . Two days were entirely cloudy; three were five-sixths cloudy; four were two-thirds cloudy; six were one-half cloudy; seven were one-third cloudy; five were one-sixth cloudy; four were clear.

Precipitation.—The total precipitation was 7.41 inches. This is 3.28 inches above the normal. It fell in 17 rains. There were thunder storms on the 3rd, 4th, 9th, 11th, 12th, 13th, 14th, 15th, 19th, and 31st. The table following shows monthly rainfall for 1896, the normal, and departure from normal:

	Normal.	1896.	Departure from Normal.
January	.77	.31	-.46
February	1.06	.56	-.50
March	1.30	.87	-.43
April	2.72	5.49	2.77
May	4.13	7.41	3.28
Totals	9.98	14.64	4.66

Wind.—The wind was from the south thirty-nine times; southeast; twenty-three times; north, ten times.

times; east, six times; northeast, five times; west, five times; southwest, four times, and northwest once. The total run of the wind for the month was 9858 miles, which is 1143 miles above the mean. This gives a mean daily velocity of 318 miles, and a mean hourly velocity of 13.25 miles. The highest daily velocity was 480 miles, on the sixth; the lowest, 93 miles, on the 28th. The highest hourly velocity was 41 miles, from 3 to 4 A. M. on the 31st. The following tables give comparisons with preceding Mays:—

May.	Number of Rains.	Rain in inches.	Per cent of Cloudiness.	Prevailing Wind.	Mean Temperature.	Maximum Temperature.	Minimum Temperature.	Mean Barometer.	Maximum Barometer.	Minimum Barometer.
1858	12	5.12	.....	.....	59.95	91	39	.....	.....	.....
1859	12	9.42	51	SW	65.61	88	42	.....	.....	.....
1860	3	1.13	27	SW	69.10	97	30	.....	.....	.....
1861	8	3.76	46	SW	64.46	90	42	.....	.....	.....
1862	8	3.18	30	S	65.38	89	46	.....	.....	.....
1863	4	3.13	25	S	68.80	91	48	.....	.....	.....
1864	6	2.29	54	SW	64.80	89	35	.....	.....	.....
1865	6	2.04	20	S	67.16	90	32	.....	.....	.....
1866	7	2.83	49	SW	62.18	90	45	.....	.....	.....
1867	9	3.59	44	N NW	58.73	93	41	.....	.....	.....
1868	3	1.38	31	S	66.08	88	50	.....	.....	.....
1869	8	1.12	41	NW	59.11	88	43	28.72	29.05	28.30
1870	5	.91	44	NW	67.63	93	49	28.73	29.60	28.40
1871	7	5.07	54	SE	65.05	88	45	.....	.....	.....
1872	11	6.81	59	SW	58.99	90	30	.....	.....	.....
1873	10	8.54	61	SW	61.84	86	44	.....	.....	.....
1874	7	2.98	49	SW	68.88	93	40	28.77	29.01	28.11
1875	10	2.46	51	SW	64.15	98	29	28.71	29.04	28.10
1876	7	5.73	54	SW	63.84	86	34	28.71	29.02	28.20
1877	13	5.20	70	SW	64.16	84	31	28.66	29.32	28.24
1878	11	4.06	63	SW	62.02	85	34	28.66	29.04	28.24
1879	7	1.79	39	S	68.58	93	40	28.56	28.85	28.18
1880	6	3.74	40	S	70.40	94	44	28.56	28.88	28.28
1881	14	6.67	65	SE	68.25	87	46	28.58	28.84	28.22
1882	8	5.20	64	NW&S	58.35	86	36	28.59	28.88	28.10
1883	11	4.83	54	SW	60.74	90	37	28.57	28.94	28.06
1884	5	4.63	42	SW SE	61.61	85	35	28.55	28.78	28.21
1885	8	4.30	34	N NW	60.75	86	35	28.57	28.82	28.25
1886	9	4.87	26	E	69.61	100	42	28.85	29.20	28.38
1887	5	2.54	25	SW	68.53	99	37	28.85	29.20	28.19
1888	7	2.25	34	.....	60.10	88	30	28.88	29.19	28.47
1889	7	6.15	38	.....	63.11	94	30	29.01	29.32	28.53
1890	10	1.81	29	SW NW	62.86	92	30	28.79	29.14	28.36
1891	8	4.79	36	S	60.88	89	30	28.95	29.32	28.50
1892	12	6.62	51	NW	57.83	90	38	28.74	29.04	28.27
1893	9	5.73	35	S	60.85	91	31	28.76	29.01	28.25
1894	7	3.78	25	N	64.32	92	30	28.83	29.21	28.38
1895	11	3.02	34	S	66.70	101	33	28.76	29.15	28.29
1896	17	7.41	43	S	68.63	93	40	28.68	28.94	28.40
Sums	328	160.88	1637	.....	2500	.....	718.04	.....	.....	.....
Means	8	4.13	43	SW	64.10	.....	28.72	.....	.....	.....

WIND RECORD.

May.	Total Miles.	Mean Daily.	Maximum Daily.	Mean Hourly.	Maximum Hourly.
1889	9577	308.95	914	63	12.87
1890	6122	197.48	547	57	8.23
1891	7691	241.10	552	57	10.34
1892	10092	325.55	632	95	13.56
1893	9192	296.51	597	98	12.35
1894	8115	261.45	578	83	10.89
1895	9077	292.80	772	124	12.20
1896	9858	318.00	480	83	13.25
Sums	69724	2241.84	93.69
Means	8715	280.23	11.71

June 10.

THE INDUSTRIALIST.

PART
ONE.

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Historical society

MANHATTAN, KANSAS, SATURDAY, JUNE 20, 1896.

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The Closing Exercises of the College Year.

Class Roll and Theses.

MAY HAINES BOWEN, Manhattan, Education of Women in the 19th Century.
 CON MORRISON BUCK, Oskaloosa, Influence of Mechanical Engineering on Agriculture.
 MARGARET ISAPHENE GARLETON, Manhattan, The Making and Keeping of a Home.
 WILLIAM ANNESLEY CAVENAUGH, Manhattan, Agricultural and Mechanical Colleges.
 WILLIAM ARTHUR COE, Coloma, Conservation of Moisture in the Soil.
 CHARLOTTE MABEL COTTON, Wabaunsee, Window Gardening.
 ERNEST BROWN COULSON, Cherokee, *Oklahoma*. Some Wastes of Our Industrial System.
 GEORGE HENRY DIAL, Cleburne, Influence of the Forest on Civilization.
 CHARLES FRANCIS DOANE, Louisville, Difficulties Encountered in the Settlement of the West.
 JOHN BERTHOLD DORMAN, Ballston Spa, *New York*, The Public Land Survey.
 BRADFORD DOUGHERTY, Kansas City, Municipal Reform.
 CHARLES SILAS EVANS, Sunset, *Kentucky*, The Tea Rose Under Glass.
 ROBERT KILBY FARRAR, Axtell, The Farmer's Library.
 GEORGE WILLIAM FINLEY, Manhattan, Development of Medical Science.
 JOANNA FREEMAN, Riley, The Loess Formation of Kansas.
 JOHN JACOB FRYHOFER, Randolph, The Press.
 ELMER GEORGE GIBSON, Willard, The Progress of American Historical Literature.
 GEORGE CLINTON HALL, Hoyt, Law and Man.
 ALONZO CHARLES HAVENS, Dwight, Horticulture on the Farm.
 GERTRUDE JULIA HAVENS, Dwight, Nursing as a Profession for Women.
 LAWRENCE WILBUR HAYES, Manhattan, The Use and Abuse of Horse-shoeing.
 JOHN WARREN HOLLAND, Cokeville, *Wyoming*, Municipal Socialism.
 HENRY GEORGE JOHNSON, Assaria, Alfalfa.
 SUSAN EFFIE JOHNSON, Success, Training for Librarians.

MARIAN ELIZABETH JONES, Manhattan, Landscape Adornment of Rural Homes.
 THOMAS LORMAR JONES, Manhattan, Music in the Public Schools.
 EDWARD CLARENCE JOSS, Fairview, Criminal Law and Penal Discipline.
 ROYAL S. KELLOGG, Fay, Hypnotism: Origin and Methods.
 MARK KIRKPATRICK, Fredonia, The Application of the Monroe Doctrine to the Venezuela Boundary Dispute.
 EDITH LYNNETTE LANTZ, Manhattan, Notes on American Poetry.
 SUE LONG, Manhattan, American Critics and Criticism.
 CHARLES W. LYMAN, Manhattan, Recent Development of the Telephone.
 CHARLES DWIN McCUALEY, Wilburn, Some Thoughts on the Irrigation Problem.
 CHARLES SUMNER MARTY, Merriam, Landscape Gardening.
 MRS. ELDA LENORE MOORE, Manhattan, Educational Institutions for Women.
 ARTHUR HOUSTON MORGAN, Hillside, The Lasting Progress of the Public Schools.
 CLARA VERENA NEWELL, Manhattan, Improvement in Magazine Illustration During the Last Twenty-five Years.
 ELLEN ELIZABETH NORTON, Manhattan, The Modern Dwelling.
 JOHN BITTING SMITH NORTON, Manhattan, Kansas Ustilaginea Germination.
 HATTIE A. PADDLEFORD, Stockdale, The Benefit of an Industrial Education for Girls.
 MARY KERILLA PAINTER, Meade, Methods of Teaching History.
 ELVA LUTHERA PALMER, Clifton, The Relation of Mythology to Religion.
 INEZ LUELLA PALMER, Clifton, The Need of Industrial Training.
 FANNIE PARKINSON, Pomona, Woman in Journalism.
 ARCHIE CARPENTER PECK, Big Valley, *Texas*, Water Supplies, from a Sanitary Point of View.
 ARTHUR LOUIS PETER, Oakland, Anarchy.
 CHARLES EDWIN PINCOMB, Hector, Power Test of a Paddlewheel Windmill.
 MARY JOSEPHINE PINCOMB, Hector, The Early Settlers of Kansas:—Their Characteristics and Surroundings.

JOHN POOLE, Briggs, Growth of Banking.
 EDGAR ARTHUR POWELL, Osage City, A Brief Review of Our Local Fringillidæ.
 LISLE WILLETS PURSEL, Manhattan, The Ethical Life of the Japanese.
 HOWARD NEWTON RHODES, Manhattan, The Farmer as a Veterinarian.
 AMBROSE ELLIOT RIDENOUR, Manhattan, The Three Principal Theories of Suffrage.
 MARY ETTA RIDENOUR, Manhattan, Should Cooking and Sewing be Taught in the Public Schools?
 ISAAC ARCHIE ROBERTSON, Manhattan, Individualism vs. Socialism.
 GRACE ANNA SECREST, Randolph, The Founders of American Literature.
 CARL SNYDER, Oskaloosa, Horticulture and its Relation to Agriculture.
 MAX GILBERT SPALDING, Eureka, Hog Cholera.
 ORVILLE ASHFORD STINGLEY, Manhattan, Influence of Invention on Industry.
 SADIE STINGLEY, Manhattan, Hygiene in its Relation to the Home.
 GERTRUDE ELLA STUMP, Manhattan, Art in Household Furnishing.
 MIRIAM ESTHER SWINGLE, Manhattan, Physical Culture for Americans.
 WILLIAM ELWOOD THACKREY, Manhattan, The Irrigation of Our Plains.
 JAMES DUNBAR TRUMBULL, Manhattan, Trade: Its Origin and Influence on Civilization.
 FRANK EDWIN UHL, Gardner, Economic Aspects of Protection and Free Trade.
 EDWIN H. WEBSTER, Yates Center, Steam Engine Testing.

The degree of Master of Science was conferred upon the following candidates, for proficiency in the studies named:—
 JAMES E. PAYNE, '87, Cheyenne Wells, *Colorado*, Agriculture, Botany.
 WALTER TENNYSON SWINGLE, '90, Naples, *Italy*, Botany, Horticulture.
 EFFIE JEANNETTA ZIMMERMAN, '91, Moray, Domestic Economy, Chemistry, Music.
 FRED. COLEMAN SEARS, '92, Manhattan, Horticulture, Botany.
 RUTH TIPTON STOKES, '92, Manhattan, Domestic Economy, Botany.

The Kansas State Agricultural College gave, in 1896, the degree of Bachelor of Science to a class of sixty-six members, and the second degree, Master of Science, to five others, all named above.

The exercises of the week opened with the Baccalaureate Sermon by President Fairchild on Sunday afternoon, June 7th, followed by the address before the literary societies by Dr. Bernard Bigsby of Detroit, on Monday evening, and the address before the Alumni Association by Prof. F. J. Rogers, '85, on Tuesday evening. On Commencement Day, Hon. Eugene F. Ware delivered the annual address, this exercise taking the place of class productions which it has been the custom to present for many years past, and abolished this year because of the large class.

The military drill by the Cadets was enjoyed by an immense throng on Wednesday afternoon; and right well did the boys carry out their part of the program.

The society reunions and Alumni business meeting were followed by the Alumni banquet at Ulrich's Hall in the evening, concluding the exercises of the week.

The Baccalaureate Sermon.

BY PRES. GEO. T. FAIRCHILD.

The commotion natural to Commencement sometimes obscures its chief characteristic. We decorate the walls of our college home in every nook and corner; we even crown with laurels those who have won the right to leave it; yet the chief feature of the whole is the open door into a world of duty. Without this open door there could be no congratulations, no rallying cheer, no Commencement.

To emphasize this chief fact, I have chosen for my text words from the farewell of Jesus to his disciples, given in the gospel of John, twentieth chapter and twenty-first verse: "As my father hath sent me, even so send I you."

The mission of each man into the world is a grand, familiar fact; too familiar to be impressive, too grand to be comprehended. We all know, as a general truth, that every human being is drafted into the grand army of fifteen hundred millions without a possibility of substitution; that his time of service

is allotted to him without question of his will, and that discharge at the end of service is merely another drafting for another arm of the service. But do we realize that this conscription is to a glorious service? Do you and I find ourselves sent into this world, not for pleasure, but for duty; not for neighbors merely, but for the race; not for the race alone, but for God's universe?

The nature of this warfare can best be seen from contemplation of the power under whose conscription we enter it. You are born into the world as a definite part of the plan of the universe. Natural laws—God's methods of action—have made a place for you and set your task. Your very gifts of physical energy, intelligence, resolution, conscience, are convincing evidence of your mission. Your courage, hope, enthusiasm, faith, and zeal are ready weapons in the expected conflict, a part of the same God-given equipment. Every part of nature appeals to every part of self, through constantly widening doors of sense, for activity, exertion, accomplishment. Added to all this we have the leadership of the appointed one, whose life was an embodiment of service, whose every word was an incentive to zeal, and whose last message to those nearest him, and through them to you, gives the words already quoted, "As my Father hath sent me, even so send I you."

This makes the general fact a personal one; the papers are made out for you and for me, that place us in our own division, corps, regiment, company, and rank. It gives to each of us a definite mission among our fellowmen. We are everywhere the sent ones, the apostles of good. Unfortunately, it seems to me, the world has tried to set apart as missionaries those few whose lot is to proclaim in set times and places the coming kingdom, while all have equally a mission.

Some characteristics of this mission of individual men and women are worthy of consideration here.

In the first place, the service is continuous. "There is no discharge in that war," nor is there any furlough. The arms are never stacked, the uniform is never discarded. Service may be more or less arduous, but it cannot be postponed or evaded. Any disposition to decline or postpone is treasonable,—foolishly treasonable, too; for the power resisted is, beyond our doubt, supreme in control, supreme in wisdom, and supreme in equity. We cannot possibly believe in any final gain from treason to such power. Shirk it as fully as we can, and still the requisition of responsibility stands unrevoked, undiminished, incontrovertible. If we shut our eyes and ears to outward commands, our perception is only the more clear of the law written upon the heart. Every struggle of reasoning to assert the supremacy of self and self interest only emphasizes the supremacy of the power that makes for righteousness; the power

that has established our mission, and made it interminable.

In the second place, this mission is here, not merely somewhere; it is where you are, not where you might be, nor where you might have been, nor where you hope to be hereafter. Like the picket on duty, each man is responsible for his beat, with little opportunity, and with little right, to spend his energy in guessing whether another's duty calls, or how he might perform his functions under other orders on other missions. While you and I can well consult over common duties to neighbors and to all humanity, neither of us can wisely judge of the other's duties in different circumstances with different powers under different orders. It is easy through the glamor of centuries to magnify the noble mission of a Paul, and forget that all that grandeur grew through daily attention to duty as it came. It is easy in imagination to perform great deeds of valor, of generosity, of philanthropy, when we shall find the grand opportunity. But the grand opportunities are met with only by the one always alert, ready for the least as well as the greatest of usefulness. The student intent only upon the far off honors to be achieved, finds himself without the power or the tools for the work when the distant task is reached. Power and will to do, now and here, are the means of power and energy hereafter and anywhere.

Still, the true soldier looks always for a wider horizon of duty. Scanning every avenue about him, his glance takes in every point of attack, near and far. He is no slave to circumstances, because he finds the way through circumstances to reach the utmost range of his powers. So it is every man's mission to make his surroundings means of usefulness now, and of growth to greater usefulness with each succeeding day.

But I have dwelt too long, perhaps, upon the generalities of this mission, implied in the mere fact. What are we sent to do? How shall we find the elements of our commission? What are its limits today? To whom shall we look for commands?

These are questions to be answered here only partially. We are sent to do all that our powers permit. Socrates thought any man idle who might be doing better than he is. So if any of us are forgetting the use of any of our powers for good, we are so far neglecting a commission. The limits of our commission are found by analysis of our circumstances, including every relation sustained to others' welfare.

Every human being is a sentinel to guard the welfare of every other. As truly, if not as intensely, as the soldier on guard, each of us holds in keeping the welfare of his neighbors. Ever since Cain tried to escape duty by asking, "Am I my brother's keeper?" the answer of God in all consciences has been, "The voice of thy brother's blood crieth unto me from the

ground." Every form of philanthropy is reached by this commission to usefulness. If by any act of mine the death rate could be lowered, here at college, in the town, in the city slums, in the State, in the nation, in the world, you would pronounce judgment against me if that act was withheld. Every habit, every practice, every deed that renders life less secure for myself, for you, or for posterity, involves partial desertion of the post of duty. It seems at first a trifling departure from rectitude to risk one's health in occasional dissipation; but every resulting pain or weakness of body or mind for all that follow in the long chain of descent may lie at the door of the Adam who set the ball rolling. Yes, more: the subtle influence of a bad example in the care of personal health may be our contribution to the downward tendency of the race, and condemn us as traitors to our trust. While neither you nor I can feed all the starving or protect all the freezing, we can help to make such feeding and protection more universal by our own care for wholesome food and warmth, and our constant influence with others. Thus the life of the race is in our keeping.

Equally, the wealth of all humanity is made up of each one's contribution to the store. Control of any store of good that might be used for the happiness of man brings great responsibility. We are likely to recognize such a responsibility in those who spend their thousands; but any little waste involves proportionally the same failure. The reckless tramp and the reckless millionaire abuse their privileges alike.

The world's wisdom, too, lies in the keeping of just such feeble folk as we. Not only in nation's under popular rule, but in absolute monarchies, all wise action depends upon the action of the least wise. If one keeps himself ignorant or foolish, or keeps his children unwise, all must suffer together. So each is sent to learn all he can, and to proclaim all he can, of truth. To fail is to hold the world back from wisdom. To learn and to teach are a prime part of our commission.

But the chief ministry to the race will always be the encouragement of virtue. All other means of happiness become insignificant as compared with uprightness. Indeed, if virtue ruled in each individual of the race, would not all welfare follow? Does not any vice impede progress toward wisdom, wealth, and long life? Then if you and I are slack in any virtue, or slack in exertion to promote virtue in others, our mission is slighted. This duty rests, not on a chosen few, not on a class set apart by ordination cloth or sacred vow, but on the least and the weakest of us. If you, my friend, know how to help one little toward a life of righteousness anywhere, you are sent to exert that little now, and are criminal in your neglect to do it. Your own character is in your own keeping also; but reflects, and is reflected in, the character of every intimate. You make or mar the virtue of your social circle, up to your ability, and desert your post of duty when you fail to recognize the fact.

Is there a gospel of rescue from wickedness, you have the mission to proclaim it. If you are too vile to carry it, you have the duty of reform. To shirk this duty is criminal neglect of your mission to humanity. I have no sympathy with the sentimental view that exalts to lofty height above his fellows the calling of a preacher; for every man is bound to proclaim with all his powers the power of righteousness and the way to find it. You are preaching today the good news of peace and perpetuity, or the ill news of degradation and death. If deeds teach more than words, you are furnishing the chief teachers. If words gain significance from deeds, every man's deeds proclaim his part in the mission of redemption. Then, if Calvary offers new hope and inspiration to degraded men, it is your mission and mine to know and proclaim it to the world. Paul's cry, "Woe is me if I preach not the gospel," is the natural cry of every man who finds the good news. He cannot keep it to himself.

The logic of such a mission for every human being is inevitable; he is a part of the offspring of God. Born into a world that needs his help, each individual is sent to do all that his abilities permit for the universal welfare, and cannot escape the principle of duty. Even if he tries to hide his commission under a supremely selfish philosophy,—imagining that no ties bind one individual to the rest of God's offspring, because, forsooth, his own appetites, desires, and affections are supreme among motives,—the meeting of these very human wants compels assent to the principle of duty. We cannot reach for a single good in life without acknowledging the reciprocal relation of humanity. In order to get, we must give. The most selfish of men becomes the most exacting in defense of his rights; yet what are rights but another phase of duties? You can claim from me as your right not a single attention, without at once admitting your duty to me in similar circumstances. The whole range of human welfare rests upon the chief relations between individuals that enforce the command, "Thou shalt love thy neighbor as thyself." A selfish love is self-contradictory; yet the chief good in life, from the cradle to the grave, is love. Every conception of life above mere brute existence is pervaded by love. Every inquiry into the blessedness of a perfect life here or hereafter, is based upon love. Every analysis of rights, duties, law, government, leads back to love. Every apparent advance in civilization, every proposed reform, is tested by love. Every defense of existing institutions rests at the last upon love. Every prophecy of "the good times coming" emphasizes love. No wonder Paul cried out, "Love is the fulfilling of the law," for all the law of all the ages has found its reason for being in love. But love is more than all laws, because it embodies the whole mission of man; it is his commission as a human being, an individual power sent into the world to get his own good by doing good.

In this emphatic use of love, we must not fall into the error of calling it a mere sentiment, an emotion.

Love that "suffereth long and is kind" is more than an emotion. It becomes the settled purpose of the soul, not merely an impulse. While it is never a mere policy, it is always the established policy of a true life. This love, which extends to enemies, while we strive to crush their enmity, is deeper than any feeling, more permanent than any impulse. The calm unchangeableness of the Supreme Father rests in love, and every approach in ourselves to the perfection of the Father is revealed in love.

Thus we are sent into the world to love all men, even enemies, and have our commission by birthright. To be thus inevitably conscripted for duty may seem, from this side only, a hardship. "Is all my life," you say, "summed up in obligation? Am I always to be burdened with the care, the anxiety of others' rights and others' needs? Must I bear the ills of all the earth, in order to take my share of the earth's good?" We must indeed bear other's burdens; but need we find them a burden to us? A clear analysis of life's chief welfare—the good that leaves no taint of evil—shows in every test the burden bearing. Would you shine with the virtues of the world's heroes when all the tinsel of mere show is wasted by time, you will find that such reputation rests upon self-sacrifice. Would you have the character of those whom the whole race adores, you must have their keen sympathies to make you a burden bearer like them. Would you have the joy that never wears out, you must have the blessedness of giving. Who experiences the loftiest happiness—the one who receives, or the one who extends mercy? Yet the merciful one takes the burdens of the other. So with every ordinary phase of life. Even property gains in its value to us when we control it for others' welfare. A once wealthy man, looking back from comparative poverty, said, "What I saved, I have lost; what I spent, I have had; what I gave away, that I have still." Is there any truer statement of the lasting welfare that comes from having used property wisely for the good of humanity? What use of my hands will bring as lasting pleasure as that by which I have saved another from pain? Does the scarred soldier regret his scars in service of country? Does the fireman scorched in rescuing a mother's babe hide with regrets the marred visage he will carry to his grave? All the great rewards of living are in the line of the same grand spirit of sacrifice.

All this belongs to every one of us by birthright. But to the one who enlists under the banner of the cross, new significance is given in the commission of the text, "even so send I you." The type of philanthropy is in Christ Jesus. The exhibition of love embodied is in the sacrifice, even unto death, upon the cross of Calvary. None of earth's heroes could have left with equal influence a similar message: none, to my knowledge, has attempted it. Given in the very light of the cross, it emphasizes the necessity of sacrifice. The mission of Christ was to death for a world; it was known, it was felt. To those who still shuddered in the sight of this sacrifice came the message, "even so send I you." Is it any wonder that such a commission has sent his disciples into every dark corner of the earth for a similar sacrifice? The spirit of missions is not satisfied with any omission of duty for Christ and humanity. It overlooks the cost and the risk, in the need. It goes to the ends of the earth to relieve the darkness of ignorance and sin. It has met all obstacles of nature and human prejudice to offer help to needy humanity. Oceans have not impeded, but transported it. Armies have been turned by its means, and fortifications have yielded to its attacks. "In his name" has been for ages past a passport to usefulness, and is today a badge of security to every lover of humanity. The red cross of devotion to suffering humanity may lull the combat between opposing armies. A greater commander than generals or potentates issues these orders of amnesty. Can any honest man or woman ignore this commission? Can you, with your aspirations, founded upon knowledge, forget that this sending is yours?

To all humanity this message comes with a clear, emphatic utterance. But to those who have the advantage of a larger knowledge of the world's needs and opportunities—to the educated man or woman—it has the significance of a special commission. It was given to a group of special learners, disciples, trained under the precept and example of the Master. It is still given in the same message to the learners. Educated men and women have the place of commissioned officers in the line of usefulness. If education gives power, it gives added duties. Does it bring added wisdom; it enlarges the place for that wisdom. In the added inspiration of knowledge is granted the inspiration of a mission to fellow men.

In the government of the people by the people, genuine success depends upon the genius and spirit of the leaders. The self-seeker leads to destruction, be he despot or demagogue; but the selfish demagogue makes the disaster more sweeping. Those who can wisely lead to better knowledge of wants and of means, to better understanding of rights and duties, to higher appreciation of principles in government, to truer devotion to righteousness, must be from the best trained men of our times. Today, under the burden of many disasters, our country is in need of self-sacrificing leaders, willing to stand for truth in every question. The truth is not always popular. It was not in the time of Jesus. It has not been for his followers, noted in proclaiming the simplicity of gospel faith and earnestness in all the great struggles for liberty and order and law. It is not now certain that truth will win the battle of the morrow; but in the reach of centuries truth does win, conscience does conquer, and the world is the gainer. Whoever saves his life, or anything else, by shunning truth or shirking its promulgation because of unpopularity, will lose all that makes his life worth having. Any educated man who fears to think or to act for truth's sake is a traitor as well as a coward. He

knows how truth has won by sacrifice. He stands before the world an expert witness for past conquests, and his testimony should decide the case, for himself, at least, on the side of truth. His influence, thrown never so lightly against his own ideas of righteousness, condemns him and disarms him. In any conflict to follow, his own traitorous thoughts and acts will rise as victorious enemies. Many a leader in politics finds his own foolish words, uttered to catch friends, the chief obstacles to successful urging of reform. Many a thinker in philosophy finds his own dogmas, announced in love of notoriety, the strongest barrier to sincere thinking. Even among the theologians of our day, not a few men of note, having once joined in the popular cry, "heresy," have cut off for themselves the possibility of thinking honestly.

The trained man, recognizing his commission in the world, has no end to serve but genuine progress toward right living and right dying. The Bull Run defeat of the crowd in face of error only rouses him to stronger exertion against this added enemy to truth. He is a veteran who can stand when the novice is vanquished. Even when dragged back with the crowd, he stands ready to lead in a rallying attack, his protest having rung against the tumult of the rabble. We shall find him ready with weapons still in hand, with powder dry, when the dust of the stampede is over. God send such men of thought and action to clear the way to victory, for truth, for right, for life. Are you the men of his sending? Are you to be leaders in the ranks of the upright and true, who make up the army of God?

In the army of God we must all be counted, whether soldiers or deserters. The rolls never lose any name. But on those rolls we raise our name and rank and opportunity by voluntary acceptance of the trust, by going when we are sent, and standing where we are stationed.

To you, the Class of '96, I bring this earnest message today, not because you need it more than others. In the four years of our acquaintance I have learned to prize your general earnestness and truthfulness. I believe in your wish to render good service in the world. But today you look out upon the world's work from a special point of observation. You, as it were, stand aloof from the rest of the world, awaiting your immediate task. Can you meet that task in all sincerity of purpose without scrutiny of your commission? The responsibilities you take up as graduates are worthy of consideration, but your responsibilities as men and women are after all chief. To live as one ought to live is a serious matter, full of limitless possibilities. But all those possibilities are with him who sends you into the world by birthright, and gives your commission through Jesus of Nazareth.

I cannot present to you in words the full measure of satisfaction I find in a willing service to humanity, as a meek disciple of the Master. I can give you no vision of the contentment of faith in such a leader of the mission to our race; but you can see its effect on the life of your friends. You can follow it through their constant progress toward a perfect ideal. You know the way you would face, whether in line of your mission to men among men, or in the line of a skulking retreat from duty. May you all have the will and the grace to accept your commission from the Father through his Son for a glorious life of self-sacrifice.

Then, in the coming years of your pilgrimage, you can look back with joy, as you now look forward in faith, to a life well meant and so well spent; for the Father takes the will of his children for deeds. When we shall meet at the harvest home, sometime, somewhere, shall we have the reunion of veterans scarred, but glorified in the victory over wrong? In that reunion we shall count no losses except by desertion. Shall the ranks be full?

Finally, when in grand review we await the badge of promotion, shall all be ready for the new commission? Having been faithful over a few things, shall we all be rulers over the many things? May God grant this glorious consummation of your course here and your fuller course hereafter.

Lecture Before the Societies.

On Monday evening, June 8th, an expectant audience gathered in the College chapel, to be present at the annual lecture delivered before the College literary societies. After music by the College Orchestra and an octette from the Ionian Society, C. E. Pincomb introduced the speaker of the evening, Dr. Bernard Bigsby, of Detroit, Mich., who, for an hour and a half, spoke on the subject "Science of Language." The address was intensely instructive, and interesting as well. The speaker opened by saying that the science of language is a science that is worthy not only of the attention of the Universities, but of the world. We are backwards in the study of words, and many of us do not even know what a word is; and books written upon the subject twenty years ago are now worthless. Carlyle says, "A thought is a picture of a thing," and adds, "a word is a picture of a thought."

Primitive man used chiefly sight and harmony words, and today one fifth of the words in the English language are of harmonic origin. He proved by several illustrations that many people do not even know the meaning of their own names. Thus, William means the man who wore the golden crown; Rachel means sheep; Thomas means a twin; Ursula means a little she bear. If people knew the meaning of words, children would not be burdened with hideous names.

After you know the history of words, learn to pronounce them correctly. Many a man who would not wear a hat which is out of style, never hesitates to

(Continued on page 160.)

Calendar.

1895-96.

Fall Term—September 12th to December 20th.
 Winter Term—January 7th to March 27th.
 Spring Term—March 30th to June 10th.
 June 10th, Commencement.
 1896-97.
 Fall Term—September 10th to December 18th.

To School Officers.

The College Loan Commissioner has funds now to invest in school district bonds at par. The law requires that no bonds be sold at par or less without being first offered to the State School Fund Commissioner and the State Agricultural College. Address C. E. Goodyear, Loan Commissioner, Oatville, Kan.

GENERAL LOCAL NOTES.

The class motto is "Take no Footsteps Backward."

Miss Rupp left on the 11th for her home in Terre Haute.

Janitor McCreary spends a few days with relatives in Holton.

Prof. Brown attended the Republican Convention at St. Louis.

Secy. Graham visits for two weeks with his brother near Ulysses, Neb.

Mrs. Kedzie attends the Chautauqua at Ottawa, and reads two papers.

The Eighth Annual Report of the Experiment Station is just issued.

Prof. and Mrs. Hitchcock rejoice in the birth of a daughter on June 5th.

Grace Secret is the fifth member of Ex-Regent Secret's family to graduate from the College.

Ex-Gov. Glick and Secretary Coburn, of the State Board of Agriculture, occupied seats at the banquet.

The Methodist ladies furnished a dinner that everybody liked, and have \$160 net to show for their work.

The second generation of graduates began this year in Miss May Bowen, daughter of Mrs. Emma L. Haines-Bowen, of the first graduating class of the College.

Prof. Cowgill of the *Kansas Farmer* doesn't lose his interest in the College where he once taught. He has attended every Commencement since he left eight years ago.

The stone crusher will be at work next week on the new road to the south entrance. Power will be furnished by the carpenter shop motor rigged on the same truck with the crusher.

N. M. Green, Third-year, mourns the loss of his mother, long an invalid, who died, June 4th, at the home of her daughter in Council Grove, and was buried on the 6th in Manhattan cemetery.

The young man of celluloid-collar-slouch-hat-striped-trouser-red-necktie-gauntlet-glove-double-spur-loud-voice fame was here at Commencement, but he was less "obstreperous" than of old, probably owing to the fact that the grounds police had an eye on him—and he knew it.

The College received a visit during commencement week from Mr. and Mrs. Hall of Queensland, Australia, whose acquaintance with Prof. and Mrs. Shelton led them to visit us. They will spend some time in Colorado, investigating mining processes, Mr. Hall being an interested expert in mining. Their stay here of nearly two weeks has proved very pleasant to all parties.

Mrs. Kedzie has received from the World's Fair Committee of awards a medal and diploma for "an exhibit of a collection showing industrial work of women in the land-grant colleges, domestic and fine arts, and household science." Mrs. Kedzie was in charge of this exhibit under direction of Maj. Alvord. The College has also received a second medal and diploma for its exhibit of industrial work.

The alumnus was much in evidence during Commencement week. He came early, he stayed late, and while here lost no opportunity to enjoy himself. He felt that he had license to make merry, to make his presence at his Alma Mater known in every conceivable way compatible with good behavior; and he did it. He attended every exercise; he visited every department; he shook hands with everybody, including himself; he promenaded the halls; he pervaded the campus; he admired the pretty girls from "B" to "P. G." and thought they admired him in turn; in short, he recognized fully the responsible position he held in the world and in society—for had he not traveled? had he not fought a score or more of battles with the cold, unfeeling world since he received his sheepskin? And the multitude looked on—and forgave him.

The hanging of a flag in the colors of '96 from the College tower on the night of June 7th was the occasion of a boisterous gathering of lower class students to remove it, a gun being used in the effort. After being dispersed by the President, with the promise that the flag should be removed, the gun was taken in charge by Professor Mason, Superintendent of the Grounds, when a crowd rushed into his office, refusing to leave till the gun was given up, and showing no regard for his authority. Upon the President's coming to the support of the Professor, the crowd was dispersed, but with such a display of insubordination as led to an investigation and action of the Faculty expelling the most boisterous one and suspending five others for the fall term of next year. A further investigation into the character of the act of hanging the flag in provocation of such an attack, extended after Commencement to a questioning of such of the graduating class as were

within reach, for the purpose of knowing the true causes of such disturbances, was met by a few with refusal to answer questions and denial of authority to investigate. The Faculty therefore resolved that persistence in such refusal to answer fair inquiry should debar from employment at the College or official endorsement by admission to postgraduate studies or by commendation elsewhere.

Friends will be pleased to learn that Mrs. Kedzie has been offered the Chair of Domestic Economy in the University of Ohio at a salary several hundred dollars in advance of that received here. Whether she accept or not,—and an early visit to Columbus will determine,—the proffer of the place is a deserved recognition of the ability which has earned for Mrs. Kedzie a place in the front rank of teachers in her line.

Prof. Nichols and Prof. Willard have been busy for several days making shadowgraphs, or, as they are perhaps better known, photographs by the Roentgen, or "x-rays." Good negatives have been obtained of many subjects, such as coins in a purse, a razor in its case, the bones of a number of hands, the skeletons of a toad and a snake, and the hand of a young woman showing a needle imbedded in the flesh, which had been there many years, but whose exact location was not known. The pictures will be shown with the stereopticon to illustrate a lecture by Prof. Nichols on the new discovery before the Riley County Teachers' Institute.

GRADUATES AND FORMER STUDENTS.

Sam Kimble, '73, made a model toastmaster.

P. S. Creager, '91, is telegraph editor of the Kansas City *Journal*.

Mary Lyman, '94, was music committee for the Alumni banquet.

C. C. Smith, '94, reported Commencement exercises for the *Nationalist*.

L. P. Brous, '86, is chosen teacher of drawing in the Kansas City (Kas.) high school.

Geo. W. Smith, '93, is chosen Principal of the Minneapolis High School for the coming year.

G. W. Wildin, '92, who has been in the employ of the Santa Fe Railway Company for several years, goes to Chicago to take a place in the designing room of the Aermotor Company. He visits College for a few days enroute.

E. P. Smith, '95, and Mabel Cotton, '96, were married at Clay Center, May 18th. The INDUSTRIALIST forgives the young folks their secrecy, since they make announcement of their marriage in time for this last issue of the paper for the college year.

S. H. Creager, '95, visits College for a day on his way from Fort Riley, where he reported the test of the Krag-Jorgeson carbine and the new shrapnel shell for the Kansas City *Journal*, on the reportorial staff of which paper he has been for several months.

Inez and Elva Palmer, '96, were married on Monday, June 15th, at their home in Clifton—the former to Mr. A. C. Barrows of Washington; the latter, to John E. Thackrey, '93, now pursuing theological studies at De Pauw University, Greencastle, Ind. The good wishes of their classmates and other friends go with them to their respective homes.

The following graduates are attending the Riley County Institute: T. E. Lyon, W. O. Lyon, '93; J. C. Christensen, Mary Lyman, Walter Harling, '94; E. P. Smith, Ora Yenawine, Nora Fryhofer, Florence Corbett, '95; G. H. Dial, G. W. Finley, L. W. Hayes, J. W. Holland, Miriam Jones, Clara Newell, Hattie Paddleford, H. N. Rhodes, Sadie Stingley, W. E. Thackrey, '96. Nora Newell, '93, and Stella Kimball, '94, are instructors in the model department; and Prof. Olin and W. E. Smith, '93, are institute instructors.

Notes from the Botanical Department.

Twenty-five sets of Kansas plants of 600 species each collected last summer, have been arranged ready for sale this spring. Five have already been sold to the following: Prof. Fr. Buchenau, Naturwissenschaftlicher Verein, Bremen; Museum of Natural History, Paris; Royal Botanical Garden, Vienna; Prof. C. Haussknecht, Weimar, Germany; Harvard University, Cambridge.

Prof. Hitchcock made two short collecting trips to Eastern Kansas this spring, one to Leavenworth, and the other to Baxter Springs, adding about a thousand species to our collection, several species new to our Kansas herbarium among them. Several persons have made collections from their localities for us this spring. Messrs. Black of Cherokee County, Haller, Wilson County, and T. Havens, Morris County, have sent in especially good and large contributions of their local flora.

Miss Lora Waters has just donated to the general herbarium over a hundred Colorado plants collected last summer, which she has identified and arranged this winter and spring. Mr. H. F. Roberts has also just supplied us with a collection of Colorado plants from near Gillette, altitude 10,200 feet.

Prof. Hitchcock expects to make several flying trips on his new bicycle to different parts of the State during the summer in the interest of our herbarium and the botanical knowledge of the State.

Besides Prof. Hitchcock and his assistant, G. L. Clothier is to be employed in carrying on the Station

work during the summer. Mr. Pond will also help at the necessary work connected with the department.

Among the students who are making special studies in botany this summer are Lora Waters, Grace Clark, G. L. Clothier, R. H. Pond, and J. B. S. Norton. These, with C. W. Pape and G. L. Christensen, expect to meet in a German class once a week.

J. B. S. NORTON.

Board Meeting.

During the sessions of the Board of Regents from Tuesday morning, June 9th, to Thursday noon, June 11th, all members were present. In the absence of a President, Regent Riddle having resigned, Vice-President Goodyear called the Board to order. Regent S. J. Stuart was nominated for President and elected by acclamation.

Regent Noe, Loan Commissioner elect, presented his bond for the year beginning July 1st next, which was duly examined and approved.

The Secretary reported the terms of the lease upon the forty-acre irrigation plant at Oakley, and arrangement for pump-testing by Prof. Hood for the State Board of Irrigation. These plans were approved.

The estimates of the Station Council for the quarter ending Oct. 1st, amounting to \$3,750, were approved, and the plan for continuing feeding experiments next winter was accepted. Other expenditures authorized were as follows: For commencement issue of the INDUSTRIALIST, \$200; for replacing tools in Mechanical Department, \$50; repairs or surveying instruments, \$20. The State appropriation of \$250 for a new boiler, being found far too small to provide the needed improvement, and the old boiler being still in use, it was decided that the money should revert to the State Treasury, and that a sufficient amount be asked from the next legislature.

Expenditure of the various appropriations for the next fiscal year was authorized under control as follows: General repairs and freight on coal, the President; Library, the Faculty; Museum, the President and Prof. Popeno; covering steampipe, the President and Prof. Hood; walks, roads, etc., the President and Prof. Mason; farm implements, the President and Prof. Georges; Regents' expenses, salary of Loan Commissioner, and incidental care of funds, the Secretary of the Board.

Pres. Fairchild was authorized to grant at discretion leave of absence to employees whose duties continue during vacation.

The salary of J. B. S. Norton as Station Assistant in Botany was increased after September 1st next to \$600 per annum.

The title of Prof. Willard was changed to Associate Professor of Chemistry.

Authority was granted to the President, in view of the dilapidated condition of the old house east of the College grounds, to sell it for removal.

The degree of Bachelor of Science was conferred upon the sixty-six graduates of this year, and the degree of Master of Science upon Effie J. Zimmerman, F. C. Sears, Ruth T. Stokes, and W. T. Swingle.

A resolution of thanks was tendered to Mrs. Harvey for the portrait of her husband, the late Ex-Governor J. M. Harvey, recently presented.

The following resolutions of respect were adopted: Whereas, Hon. Joshua Wheeler of Nortonville, recently deceased, was most distinguished among the ex-members of this Board, having held a commission as Regent for three terms, during which his faithful discharge of the duties of President and the trust of Treasurer won the confidence of all his associates; therefore,

Resolved, That we spread upon the records our tribute of esteem and respect for one who endeared himself to all by earnest, intelligent, and sympathetic activity in every place of responsibility.

Resolved, That we extend to his immediate relatives our hearty sympathy in our common loss, but with the assurance that his efficient life has left behind cherished memories and noble influences which cannot die.

Resolved, That a copy of these resolutions be presented to Mrs. Wheeler and her son and daughter, with the request that, if possible, a life-sized portrait of Joshua Wheeler be placed in the College Halls to perpetuate the memory of his loving service here.

The Secretary was directed to extend in behalf of the Board of Regents their hearty thanks to Hon. Eugene F. Ware for his appropriate and interesting address, with the assurance that they regard it as the effort of a fully developed "Drumhead," not an "Early York."

The Board adjourned to meet on Wednesday, Aug. 12th next, at 3:30 P. M.

Bulletin No. 57.

THIRD REPORT ON KANSAS WEEDS—DESCRIPTIVE LIST, WITH DISTRIBUTION.

This bulletin includes short descriptions of 209 plants which are known to become weeds in Kansas. Supplementing the descriptions are 22 plates of figures illustrating the leaves of each kind. Following these plates are five plates of maps showing the distribution of each kind by counties. Weeds are credited only to those counties from which plants have been obtained, hence the list is incomplete, but will nevertheless give an idea of the scope of the State. Preceding the description is a key by which the weeds may be determined and referred to the proper name. The weeds are arranged according to the botanical classification, but the common names are given for each kind and an index to common names is placed

at the end of the descriptions. The drawings were made by Miss Bertha Kimball and Mr. G. L. Clothier. As indicated in previous bulletins of the series, further work along the same line will appear later.

Notes From Java.

D. G. Fairchild, '88, writes from Buitenzorg, Java, under date of May 10th, the following descriptions which may be of general interest:—

"It is Sunday morning, and everything is quiet save the constant chirping of birds and the hum of insects, which here in Java never cease entirely. When the insects stop the birds begin, and when the birds stop their songs then thousands of new and strange chirping insects tune up. The cicadas here remind me of home, only their tune is different. I am sitting in my room at the hotel which looks out upon the street. The windows and doors are open, and the cool breeze blows through refreshingly. Someway it seems here just as if Spring were coming, but did not quite reach here. I feel as if it were going to be May in a few days; yet every day is almost like every other. Every morning in the cool, clear air the dark green volcanoes Salak and Gedek stand out clearly against the sky, the Klapper palms or cocoanut palms stand with their plumes of leaves motionless, and the heavens are bright blue like those at home. By ten o'clock the white cumulus clouds have covered the summit of Salak, 2200 meters high, and as the day wears on they spread out, darken, and by two in the afternoon thunder is heard rumbling in the distance, and torrents of rain fall, making little rivulets of the gutters, and often turning the roads into running streams. By five, the rain has ceased, and the starry sky and beautiful tropical moonlight make a walk in the parks delightful. So we have here, you see, no summer and winter, but a constant change from morning to evening, a sort of daily season.

"From what I have so far seen, I judge that Java is a paradise for children. At all times of day if you scan the heavens you can see little white specks like gulls moving here and there. They are the kites, and at the end of each kite string is a half naked little chap pulling and jerking most skillfully at it. They even quarrel or fight with their kites in the sky. Americans don't know the first principles of kite-flying.

"It is impossible, even were I an artist, to reproduce the effects of these Javanese scenes. The vegetation is varied and ever present. In seven years a palm becomes a giant tree as high as those that clothe our hills in the east. It makes one feel strange to hear that they are not old 'monarchs of the forest,' but simply striplings, or 'saplings,' as we call them.

The charm of the tropics, after all, is hard to explain, and I don't know myself just where it lies. The bright sunlight, the strange, lovable people, the luxury of having a host of strange, weird plants about you, all contribute to its charm, but are not the charm itself. Telling of all these things has no meaning: it is only when one's eyes and ears take in the sensations that the charm makes itself felt. It is said that, if a person remains two years or more in the tropics, he never is content away from them, and I can now easily realize that it might be true. Still, I say not yet. I have not yet eaten of the lotus, and for me it is not 'always afternoon.' I keep before me the living interests of America. Its future development surpasses by a thousand fold any petty fancies one could have in living in the tropics always. Even the thirst for new plant forms and new knowledge of plant life in many ways does not make up for that interest in a developing land and a people in its formative period."

Notes From Orchards and Gardens.

The row of sweet peas just east of the propagating houses attracts considerable attention. The flowers are all shades from pure white to the darkest red, some beautifully variegated. Burpee's Mixed and Vaughan's Mixed have given as good results as the varieties with high-sounding names.

Work on the roadway south from Science Hall is progressing nicely. It is to be of crushed stone, fourteen feet wide and uniform grade. It is designed for heavy teaming.

The Alexander peaches are nearly ripe. The fruit maintains its reputation for appearance, but the worms have injured the eating qualities.

The trees planted on the old farm for the Division of Forestry are doing fairly well. Of the deciduous trees, the bur oak makes the best showing, over ninety per cent having started to grow, and the Pennsylvania cherry, the poorest, nearly all being now dead. Of the evergreens, the Douglas and Norway spruce and the Londerosa pine make the best showing with nearly ninety per cent alive, and the Scotch pine makes the poorest showing, with only fifty per cent alive.

A greater number of the trees and shrubs on the grounds have borne flowers and fruit this year than ever before.

The grape crop promises to be larger than any for several years.

The strawberry crop was light, owing principally to the fact that very few runners were set last season. In appearance the fruit was fully up to the standard of former years, but it was sour and lacking in flavor, owing doubtless to the frequent rains. The row of Aroma produced the finest berries that were picked, A. DICKENS.

COMMENCEMENT, 1896.

(Continued from page 158.)

pronounce a word, whatever it may be. Upon the origin of words, he said that Rugby masters used to teach that man invented words. We know that in the stone age men communicated by means of ejaculations. Darwin, while he holds that words have their origin in the chattering of apes, nevertheless acknowledges that there is a break in his theory. Turning from theory to mathematical facts, we find that a child is born with the power of language as with any of the other senses. A little more than thirty years ago a deaf and dumb couple married at Stockholm. After coming to this country, they settled in the wilds of Minnesota, where in the course of time, were born to them three children. When civilization crowded upon them, the children, aged respectively three, five, and eleven, had expressions for the things about them. The power of language was born in them.

The roots of all words, he said, point to a common origin; and there are only six distinct languages. Language-street has only six side streets. Three of these, Hametic, Oceanic, and Chinese, need not concern us, since they are made up of monosyllabic words; the meaning depending upon the inflection given the words. But the side streets, American, Semitic, and Aryan, are the ones to engage our attention. By the American, is meant the beautiful language of the red man of our country. The Aryan, however, is the side street which comes nearest us. We are the Aryans of the world. In the heart of India, in the sacred city of Benares, stood a temple in which had lain for over two thousand years the songs of the Veda. In the early part of this century, when that temple was destroyed, portions of that book were brought to England, and around them crowded the scholars of Europe, chiefly those of Germany, to whom we owe our language.

The growth of words was shown by tracing a few of the common roots through their development. We were told that no less than one hundred and sixty-one words come from the Sanskrit root meaning helmet.

Not alone do we get roots from the Sanskrit language, but from there comes the strong language, Latin; the Greek, which Carlyle calls the great language; the German, the Saxon, and the Kelt.

The lecture throughout was enlivened by bits of wit, sarcasm, and humor.

Commencement Day—The Annual Address.

Ten o'clock on the morning of Commencement Day found the sixty-six members of the graduating class in their places on the chapel stage, and with them three of the five candidates for the second degree, Miss Stokes, Miss Zimmerman, and Mr. Sears. Mr. Eugene F. Ware, Hon. F. D. Coburn, State Superintendent Stanley, Ex-Governor Glick, and Rev. I. D. Newell occupied seats with the Regents and Faculty.

Mr. Ware, speaking on the subject, "Success in Life," had the undivided attention of the large audience for an hour and a quarter.

The address bristled with interrogation points following pertinent questions; and in terse, epigrammatic sentences the speaker showed clearly that genuine success was not what the world generally regarded it.

The INDUSTRIALIST thought to print the address in full, and its representative therefore took no notes. But Mr. Ware places a proper estimate upon his production, and knowing that he will be asked to present it elsewhere, wisely denies permission to any newspaper to "take the wind out of his sails" by publishing it. The following brief outline is taken from the excellent report of the Manhattan *Nationalist*, prepared by C. C. Smith, '94:—

"Mr. Ware pointed out some of the imitations so often mistaken for real success. What is it? The speaker answers, 'I don't know.' We do not know for a certainty that there is such a thing. Often, those to whom the world attributes success are those whose griefs are hardest to bear. Is happiness success? We cannot understand or explain happiness, and after careful thought, we abandon this theory. The orator says he does not know what success is; but that he has an opinion, and this opinion is the basis of the address, though other opinions upon the subject have succeeded each other in his mind, and this in time may give way before the new lessons which experience teaches. He reserves the right to change his mind if he chooses to do so, though a younger man might speak with more certainty upon the subject. Suppose a Kansas man wants to go to Congress; he mortgages his farm to secure funds to carry on a campaign. He secures the nomination and the election. Is this success? It looks like it. He rewards his political friends, draws a salary of \$5,000 a year, receives fifteen cents a mile for railroad fare, and at the same time travels on a pass. Is this success? It looks like it. He starts to visit Europe, but falls overboard and is irretrievably drowned. Is this success? We don't know. The real question is, what has he done by which humanity will remember him?

"Success includes the idea of permanence. Bell invented the telephone. It stayed invented. He was successful. Some one before him had made the invention. It did not stay invented. He was not successful. Success is not what a man is, but what he does. The man who goes to Congress may stay there for thirty years; but if he does not do something of permanent good to those around him, he is not necessarily a success. Office is opportunity for success, not success itself. It is an opportunity which is too often unimproved. The speaker has been personally acquainted with every Governor of Kansas, and of these there were but two who did not

come out smaller men than they went in. Of these two, one came out cylindrical in shape, the other funnel shaped. Is wealth success? No, it is luck. The philosopher tries to eliminate the element of luck from human affairs, and to reason by cause and effect, but he fails to notice the fact that where one man succeeds, another fails by the same method. Wealth does not mean success, nor does it mean the absence of it. Jay Gould is a striking example of failure. He amassed a fortune which benefited neither himself nor society. Men like Leland Stanford and John D. Rockefeller amassed fortunes; they used them for society, and their lives have been successful. Wealth is not success. It, too, is opportunity. Brains do not win in the struggle of life. They cannot win. The winning qualities are heart and soul. A mole hill presupposes a mole; a palace, an architect: the success of a man presupposes a soul. This is what makes men to be men, rather than to be bandit robbers. The man who succeeds had a soul to begin with, and the correlative of this, if a man has the soul within him he will succeed.

Knowledge is knowing what others have said and done; the soul knows what others feel and have felt. The great man is the man who knows the feelings of those around him. True greatness in a man does not widen the distance between him and his fellow man. It is the sub-clerk, not the cabinet officer, who feels that he is above his subordinates. True greatness is unpretentious. The well-dressed young man who tosses the bootblack a quarter is the man who does not pay his debts, and by this act thinks to gain a reputation for generosity. If brains do not win, why take a college education to develop the mind? The question is pertinent. Without this culture we can do much if the soul which makes success is present; but with it we can do more. With a well-trained heart, the culture of mind will be effective. Real success comes slowly. Work and wait.

"Men are like cabbages." If the woman suffrage amendment had carried in our last general election, they would be included in this statement, but as it did not they are still the same glowing success they always were. Cabbages are of several varieties. The Early York ripens early and decays. Early York type of men are plentiful. The college graduate who makes the brilliant show on Commencement day is not necessarily the one whom the world will know twenty years hence. He may be an Early York. The world is full of Early Yorks. The late Drumhead matures slowly, and will keep for a year. It is a good thing to hitch your wagon to the stars; but keep your eye on the man whose wagon is hitched to a team of mules: the world will hear from him sometime."

President Fairchild, in a few well-chosen words, presented the diplomas, concluding the exercises.

Society Reunions.

THE HAMILTON.

The Hamilton Society held its reunion in Room B, where it was called to order by President C. E. Pincomb. Judson Criswell, a charter member of the Society, was, however, soon called upon to preside. Upon taking his place, he spoke briefly of the growth which he had witnessed in the Hamilton Society. H. M. Thomas delivered a declamation entitled, "Schneider's Nose." Frank Yeoman, on behalf of the Society, delivered the address of welcome, in which he heartily greeted the old members, and asked them to make the meeting theirs. Ben Skinner, '91, responded to the welcome greeting in words that showed that he was glad to meet once more with the Hamilton Society. Under the head of "Love Feast," many old members, notably, W. E. Smith, Laird McDowell, and C. D. Adams, indulged in an old time "parliamentary rag." In addition, many short speeches were made by old members. All voiced the sentiment that they had derived incalculable good from the Hamilton Society. The Hamilton Band was on hand, and furnished a number of good selections. R. K. FARRAR, '96.

THE IONIAN.

At 2 o'clock on Wednesday, Commencement Day, the Ionians began to gather in the new Society room for a greeting between old members and new. After a half hour spent in greetings and in registering, the Society was called to order to listen to a short musical program. The register showed four charter members to be present, Louise Coburn, Fannie E. Waugh, Mary C. Lee, and Julia R. Pearce. The first set of officers served again in their old capacity. Julia Pearce, as first President, presided, and Louise Coburn, with her old time grace, attended to the wants of the Society as Marshal. Minnie J. Pincomb, the present President of the Society, gave a cordial welcome to all old Ionians, and Fannie Waugh, in behalf of the guests, responded, recalling the old days in the attic and the trials of the new Society. The program followed. A piano trio by Misses Barnes, Henderson, and Helder; vocal solo by Miss Perry; piano solo by May Bowen; vocal duet by Mary Lyman and Lorena Helder; piano duet by Misses Barnes and Henderson; recitative by Marie Haulenbeck, to a piano accompaniment by her sister Gertrude; impersonation by Hortensia Harman. Then all sang "Auld Lang Syne," after which a short reception was held. Grace Stokes and Wilhelmine Spohr, behind a table decorated with graceful fronds of green, served sherbet until martial music announced the next number on the program of Commencement Day.

JULIA R. PEARCE, '90.

THE WEBSTER.

Between the hours of 2 and 4 on Commencement afternoon the History classroom, in Science Hall, contained a large and interested collection of the

(Continued in Part Three.)

THE INDUSTRIALIST.

PART
TWO.

VOLUME XXI

MANHATTAN, KANSAS, SATURDAY, JUNE 20, 1896.

NUMBER 40.

The Class of '96.

Portraits of the Sixty-six Members---The Class Day Program in Full.



The bright, cool afternoon of Tuesday, June 9th, favored the interesting exercises of Class Day. At four o'clock the chapel was filled with invited guests assembled to share in an event of unusual interest to both entertainers and entertained.

The stage was decorated with palms and other plants, while from the ceiling hung, tent-like, draperies of light white cloth, the simplicity of the arrangement being relieved by the class colors of purple and old gold, which gave the requisite dash of color necessary to a harmonious whole.

The program, as printed on this page, was carried out in detail, and was well received. The original numbers are presented in full.

SALUTATORY.

The Class of '96 meets here this afternoon with happy greeting to its many friends. It is with the greatest pleasure that we try to entertain you on this occasion, the time looked forward to by all classmen as the distinguishing event of their college life. And we would more emphatically impress a like discrimination, not in that we have merely finished our short course of study, as is too often the case, but rather that we as a class are about to step from within the domain of kind direction and instruction of others, and launch our own little barks into the troubled sea of life, where each one will soon solve the problem we have partly formulated here during the past four years, of our enthusiasm for a more extensive learning, of our determination to succeed, and that of our character, be it ignoble or grand.

You have assembled with us to wit-

CLASS DAY PROGRAM

June 9, 1896

Overture	Promotion	Moses
Invocation	Orchestra	Ed. H. Webster
Salutatory	President C. E. Pincomb	
Piano Solo	Phantasie	Lysburg
	May Bowen	
Address	Growth: Its Nature and Beauty	
	J. B. Dorman	
Instrumental Trio	The Darkies' Frolic	C. E. Bray
	Grace Secret	N. Abel Cotton
Leaves From Our Class History		George C. Hall
Trombone Solo	Fantasia, In the Gloaming	Cox
	H. G. Johnson	
Burying the Hatchet		Gertrude J. Havens
Piano Duet	Fanfare Rondo Militaire	Bohm
	May Bowen	T. L. Jones
Class Poem		Max G. Spalding
Vocal Solo		Selected
	L. W. Hayes	
Apostrophe		Our Alma Mater
	Clara Verena Newell	
	Class Song	
Words by J. B. S. Norton	Music by T. L. Jones	
Valedictory		Grace Secret

ness the last event of our life, so to speak, and the first event of another life. The former has been a life of thorough discipline, in which our curriculum has been arranged and strengthened by learned educators, and placed before every student so that each one well knows his task, his requirements, and his possibilities. And today the efforts of our past experience are supposed to culminate in this Class Day entertainment, our welcome to you, our friends. The latter, or the life we shall take up tomorrow, is full of one vast expanse, of what, we know not. Even now we see storm and tribulation confronting us in the near future, but through the mists that seem an apparent delay to the fulfillment of our expectations we see, as it were, the dawn of day; the clear gray light of morning awakens our ambitions, and still we are but being thrust into the midst of a world of rivalry, into the warfare among millions grasping for what we think to be duly our own. We take our chances with the multitude of scholars in the world,—and why should we not? All who are present will admit, leaving out the question of tact and ability, that we have all had the grand opportunity of securing a firm and solid foundation of learning, which prepares us to face boldly the world of emulation and pride. Here we are today; one side of our task will soon be finished. The future awaits our coming. Do we fain take it, or dare we retrace the past?

Friends, you have met with us to participate in the pleasures of this occasion, our first active step in the world. To our beloved parents we would do homage. The actuation of your earnest pleadings has brought to us all that we possess, and if our effort to do our best brings to your realization rich evidence of our progress, then we shall feel that our labors have resulted in success. To the

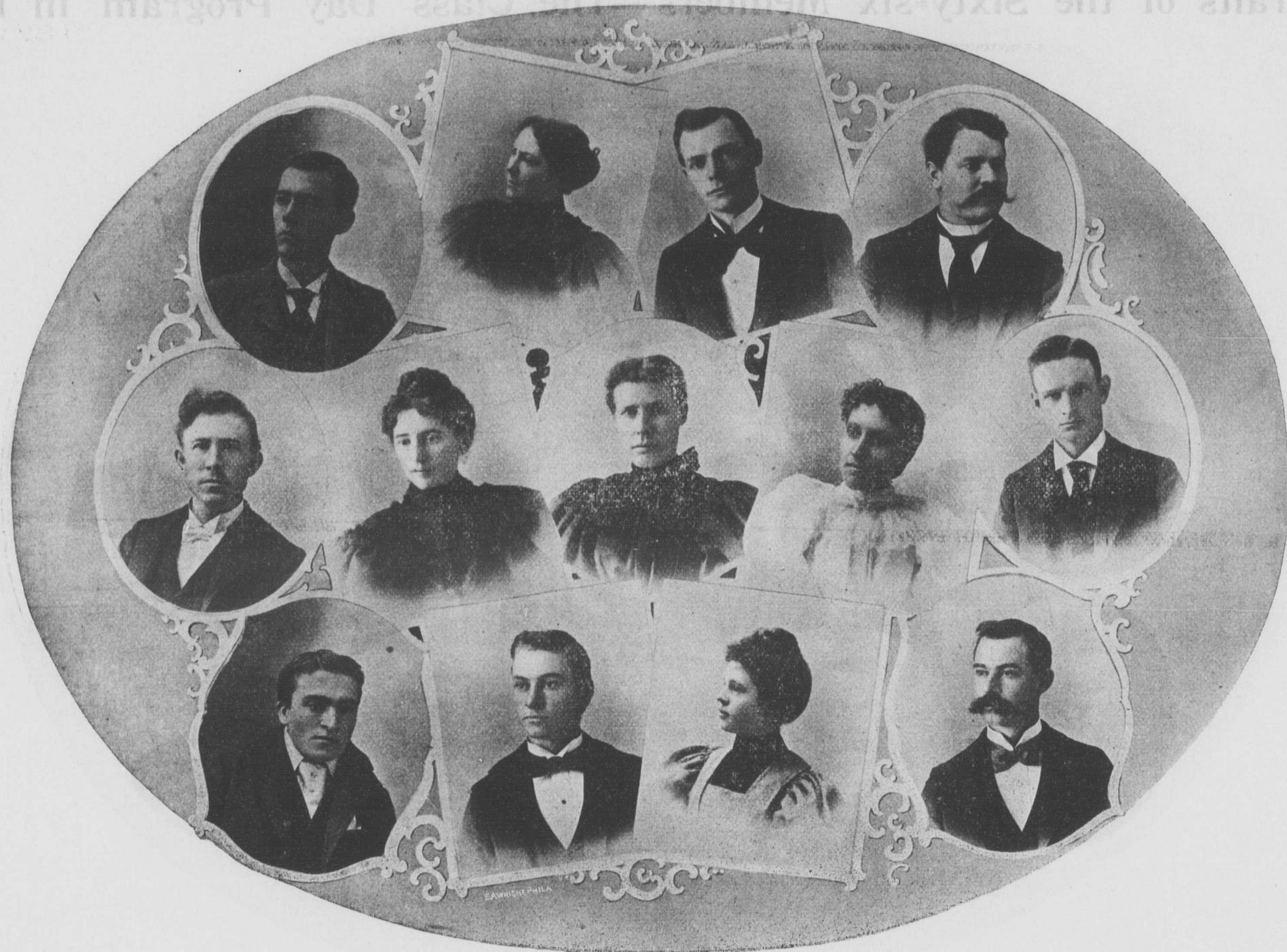
graduates, we gladly accept your good feeling toward us. Since our existence here with you, we have constantly watched your growth and your improvement over preceding classes, and should we, by virtue of the world's progress, acquire new thoughts, better ideas, and accomplish a more successful end, then we can but feel that you heartily appreciate our gain.

Though tomorrow we pass beyond the goal which

distinguishes us from undergraduates, still this is but a demarcation of that which is by no means our exclusive hope and satisfaction, but that to which we have unconsciously grown step by step. You to whom these pleasant experiences are yet to come will doubtless, for the additional privileges assured, do your work better and accomplish more, with which you have our best wishes. Our work here is finished, and may you all, in whatever life pursued

or at whatever occupation you may strive, come off victorious in that you are conquerors over the disgrace and sin of man, and with the grand, lasting satisfaction that the world is better for your having lived.

And now, to this mortal, dying audience, though each may fail to appreciate all said here during the next hour, still, if some earnest truth finds a harbor in each waiting soul, if some lesson is here exem-



plified which will add to your future and your life immortal, then we shall have fulfilled our mission.

ADDRESS—"GROWTH: ITS NATURE AND BEAUTY."

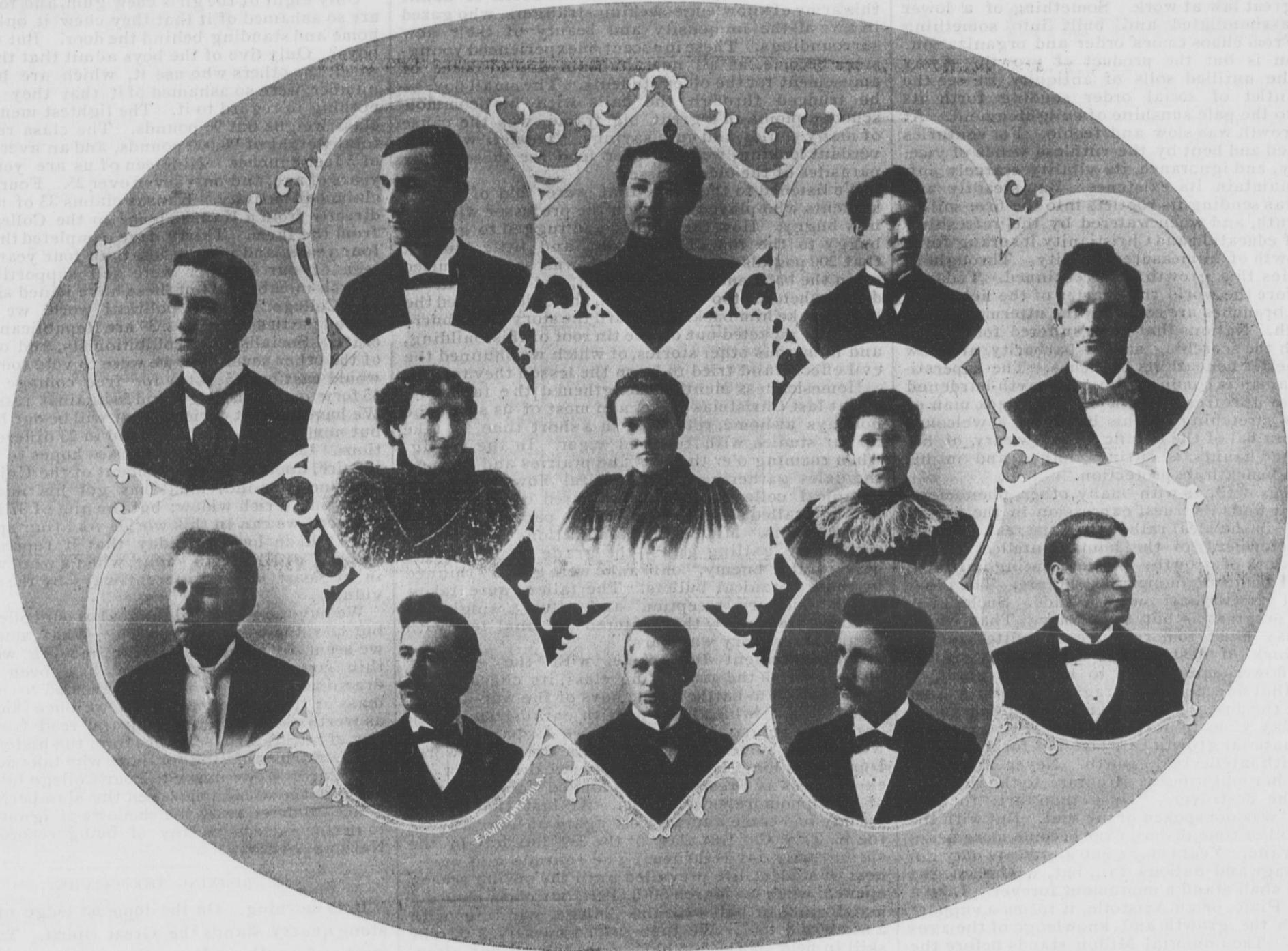
Throughout the living world, no phenomenon of nature is more characteristic than that of growth. None is more essential to the maintenance of life, and none is more strange. Without it no maturity

could be reached. It occupies the most prominent period in the cycle of all life. The microscopic organisms of the air were once in a less mature form. The spreading oak of the forest, now decked with all its bright foliage, was once contained in the tiny shell of the acorn. The haughty monarch upon his throne was once but a prattling babe upon his mother's knee.

Growth is the isthmus which connects the inert

world with the living. It is the process by which the higher and more beautiful things of nature are built up from the lower and more unbecoming. But for it the dust of the earth could never become a living man. It is by this strange phenomena that from a mere morsel of earth and the invisible elements of the air are brought forth the charms of nature, the rose, the pausy, the green fields, and shady woods.

Without growth, life could not exist. The world



would soon become a mass of never-changing matter. No longer would the land be clothed with her rich mantle of green; no longer would the air resound with the sweet song of the birds, or the paths of the earth be trodden by man. Beauty would be no more. Deprived of her very existence, she would be counted with the relics of the past.

Creator, beautifier, and preserver. Is it not the voice of the Divine? Though the "Heavens declare the glory of God, and the firmament sheweth his handiwork," what speaks his wisdom and power with a louder voice than the universal law of growth?

Passing on to the higher spheres of nature, we find the same great law at work. Something of a lower form is assimilated and built into something higher. From chaos comes order and organization. Civilization is but the product of growth. Away back in the untried soils of antiquity we see the little plantlet of social order sending forth its branches to the pale sunshine of enlightenment. At first, its growth was slow and feeble. For centuries it was tossed and bent by the ruthless winds of vice, immorality, and ignorance, its vitality scarcely sufficing to maintain its existence. But steadily and firmly it was sending its rootlets into the firm soil of law and truth, and when watered by the refreshing showers of education and Christianity it sprang forth with a growth of unmeasured vitality. Throughout the centuries this growth has continued. Today it stands before the world the master of the field. Its spreading branches are covering the uttermost parts of the earth. Nations that have suffered for centuries beneath the scorching sun of barbarity are now seeking shelter beneath its branches. The superstitious Chinaman is coming to rest his myth-burdened mind within its refreshing shade. The black man of Ethiopia is stretching out his hand for a welcome, and the cannibal of the Pacific Ocean, weary of his blood-stained haunts, is sitting clothed and in his right mind beneath its protection.

But with growth, as with many other phenomena of nature, it finds its truest expression in the spiritual world,—in the ideal rather than the real.

The development of the human intellect is the crowning work of growth. Assimilating immortal material, it builds an immortal structure. The glory of material growth must one day fade. Such development or progress is but temporary. That which grows today must tomorrow be submitted to the ruthless work of destruction. The beauty of the spring flowers must cease to be. The giant of the forest that now defies the raging elements must moulder in the dust. The charm of blooming youth must one day yield to wartage age. The grandest works of material growth can last but for a time.

Not so with intellectual growth. Never must the mind yield her magnificent structure to the ruthless hand of the destroyer. "Dust thou art; to dust returneth," was not spoken of the soul. But with the ceaseless roll of time it shall ever become more beautiful and grand. Years may come and years may go; wars may rage and nations fall, but, unshaken, the giant mind shall stand a monument forever. Like a Socrates, a Plato, or an Aristotle, it forms a support about which the growth and knowledge of the ages shall cling. The immortal Milton stands before the world today nobler and grander than ever before. The roll of centuries has served but to brighten the lustre of his soul. The storms of time have passed only to leave more perfect and majestic the beauty of that great intellectual structure.

It is in the development of mind that growth finds its true beauty. Assimilating the stores of truth, it forms them into the great thoughts and ideas of the world. It is the process by which man ascends the scale of life. It is the means by which he rises from the low plane of animal nature to the lofty heights of noble manhood. The summits of wisdom are not reached at a single bound. It is by no spontaneous action that a Gladstone, a Ruskin, or a Spencer is brought forth; but by a gradual process of development—of growth. Casting aside the false, the impure, and the selfish, assimilating only that which is broad, noble, truthful, and wise; ever seeking something higher, ever searching for something grander, they rise to the full measure of intellectual power.

Would we then fill our sphere in this life, would we enjoy the blessings intended for us by the Creator, would we reach the goal of human endeavor, let us follow the example of nature, let us obey the voice of history; cast out that which is destructive, assimilate that which builds up, and ever strive onward and upward toward the great universal life which is the end of all existence.

LEAVES FROM THE CLASS HISTORY.

Ladies and Gentlemen, and Members of the Alumni—If you will lend me your ears for a few moments, I will expound to you a few of the incidents and experiences of the class of '96—a class which is larger than any that has ever before graduated from the K. S. A. C. Last year's class called itself the "Jumbo Class," but since its big brother has come to the front it will have to take a lower seat.

The Class which leaves these college halls tomorrow to take up the real work of life is a class of variety. It is the variety that has made the class what it is. It has kept us out of the rut of ignorance and prevented us from becoming fossilized specimens of the Homo Sapient race. This variety consists in the color of our hair, which extends from jet black to the white head,—not white by old age but by birth,—of the variety in our opinions, as was shown in our chapel orations, the squabbles in our class meetings and the various occupations which we intend to follow. Of the variety of blood which flows in our veins, we have nine different kinds—English, Scotch, Irish,

Welsh, Swede, Swiss, German, French, and American. This Teutonic and Celtic blood found expression in the "Students' Herald," established January 8th, 1896, independently of the faculty.

During the summer of 1892, many boys and girls were contemplating leaving their homes to seek for a higher education than the common schools afforded. While tilling the soil and working in the factory, they built many air castles of the future that was in store for them if they could but get an education. Of the great number of such young men and women, 339 decided to take the course at the K. S. A. C. In the fall the College opened wide its doors to admit this army of knowledge-seeking strangers, who gazed in awe at the immensity and beauty of their new surroundings. These innocent, inexperienced youngsters became, as all new students do, a source of amusement for the older students. The small boy, as he trudged through the halls with his common school diploma in a great big frame, was the cause of many smiles and cute sayings. Though we were verdant looking, we were poor food for those tricky parasites of the older classes.

We listened to the tales that were told of former students who played tricks on the professor with his new buggy. How they pulled and tugged to get the buggy to the top of Bluenmont, and little thought that 200 pounds of German flesh was secretly curled up in the back end. Like a ghost, did he appear as driver when the top was reached, and quietly asked the boys to take him back. We heard the story of the burro that was picketed out on the tin roof of this building, and numerous other stories, of which we shunned the evil effects, and tried to learn the lesson they taught.

Homesickness mentally lengthened the fall term, but at last Christmas came, and most of us spent the holidays at home, returning in a short time to take up our studies with renewed vigor. In the spring, when roaming o'er the hills and prairies and through the dales gathering the beautiful flowers for our botanical collection, we were cured of that "tired feeling" called spring fever, which patent medicine so condemns. Mid-term examinations came, and with those gatling guns—the grade books—in the hands of the "enemy," our ranks were greatly thinned by those botanical bullets. The fallen were taken to the "mid-term reception" and, after a single yet effective treatment, they entered the final test with us and the victory was ours.

Commencement Day came, with the eloquent speeches from the graduating class, its charms, and the great sham battle by the boys of the war department, all of which filled us with enthusiasm and a desire to return. After this we separated and went to our homes to take up again our home work. During the long, hot summer days we dreamed of our experiences as Freshmen, and longed for the trials of a Sophomore, or wise fool. At last the longed for day had come and we were again on our way to the K. S. A. C. But alas! of the 339 that left in the spring, only 141 returned. The solitude and quietness of student life prevailed until the spring season opened; when on March 30th, 1894, our class played a match game of ball with the College, winning with a score of 8 to 7. We then prided ourselves on our skill in field sports, but have since turned our attention to work that will more effectually help humanity. Owing to the increased size of our class, the famous old "Ag." supper was just on the eve of its termination; but on the eve of May 31st the Professor gave us the long looked for ag. supper, at which we all had a jolly time.

After another summer's vacation eighty-nine returned to take up the duties of a senior. At an early called meeting, the class adopted "purple and gold" for its colors and the "pansy" for its emblem. With declamations and orations we now appeared on this chapel rostrum to pour forth our burning eloquence into a weary and a sleepy audience.

On Friday evening, December 21st, 1894, we celebrated our emancipation from the afternoon industrial, called "P. M.," by a banquet at Ulrich Hall.

No more were we to carry bovines for five cents an hour, nor break our backs in the irrigation ditch, nor pitch turnips into the cellar after the bell rang, nor learn the evil habit of shirking our duty. This was a time of jollity and rejoicing.

On the morning of June 11th, the "95" emblem waved over our heads from the topmost point of the main building. It looked beautiful as it fluttered in the cool breeze, but some haughty Senior boasted of its glory and supremacy, and declared that it could not be taken down. At these words its beauty faded away; its glory departed, and its supremacy sank into humble submission. With Con Buck in the lead, the disgraced flag was soon removed and hurled to the ground, some 110 feet below. Through the general eagerness of the Faculty and all the classes to get it, it was soon torn into shreds, of which this is the largest piece in existence, and still remains in the hands of the receiver. The class of '95 spoiled the good effect of their exercises by a mock funeral.

The following day was the third Commencement in our time. The exercises passed off rather quietly though disturbed by a few useless attempts of the Seniors to replace their ensign upon the building.

We now come to the final year, and of the sixty-nine seniors, only thirty-eight were first-years with us. Where, oh where are the other 30? We know not, but we hope that they are doing much good. We that remain were greatly eulogized by a certain junior in chapel one afternoon. On the gentle hand of gesture and with words of earnestness, he bore us away out into chaos, and there he left us, with our brightness and integrity, to shine as one of the brightest stars in heaven; to be a ray of light to the world and to illumine the dark recesses of ignorance.

Mr. A. E. Ridenour, a member of the class, in an address before the students, in the following words gave the mission of our class: "Learning has been our mission. We now pull out the weeds and chaff and garner the golden grain. We have learned that

reason, observation, and experience are the whole trinity of science. In the mathematics of life we have learned that it is our duty to add to the sum of joy, to subtract from the pain, multiply the pleasures, and divide as far as we can the sorrows and sufferings of mankind."

The great class, of whose history you have just heard a small portion, number 66, of which 23 are ladies who claim the lightest, the shortest, the youngest, the prettiest, and the most popular member of the class; while the gentlemen claim the tallest, the heaviest, the oldest, and the shrewdest members.

Only eight of the girls chew gum, and four of these are so ashamed of it that they chew it only when at home and standing behind the door. But what of the boys? Only five of the boys admit that they use the weed; the others who use it, which are but few in number, were so ashamed of it that they would say nothing in regard to it. The lightest member of the class weighs but 96 pounds. The class represents a total weight of 96,000 pounds, and an average height of 5 feet 8 inches. Nineteen of us are yet under 21 years of age, and only seven over 25. Fourteen states claim our nativity. Kansas claims 33 of us. 53 came directly from a Kansas home to the College, and 49 from the farm. Thirty have completed the course in four years, and nine in less than four years. Seventeen of our number were self supporting, 42 are church members, 14 of these have joined since entering College. In the political world we represent eleven parties or beliefs: 39 are Republicans, 5 Democrats, 4 Socialists, 3 Prohibitionists, and one of each of the other seven. If we were to vote tomorrow, we would cast but 15 votes for free coinage of silver, 35 for woman suffrage, and 58 against resubmission. We have not yet decided what will be our life's work, but next year we will be found in 23 different occupations. One member of our class hopes to be a millionaire, another to be President of the United States, and one poor individual has got his mind set on marrying a rich widow; but the aim of 37 is to do all the good we can in this world. As to our spelling, we were told in logic one day that it represented the spelling of Elizabeth's time, when a word was spelled in at least seven different ways by the same individual.

We have now reached the goal of our college course; but how the world has grown! What small specks we seem in this great living, moving world. The thin covering of ignorance has been gradually drawn aside, and we now see revealed to us a great mass of the unknown. What we once kicked aside as worthless, we now pick up and read from it some law of nature, or a sentence from the history of time.

The world is calling for those who take no footsteps backward; so we now close our College history to go out into the world to awaken the slumbering intelligence, to drive away the shadows of ignorance, and to perform deeds worthy of being recorded in the National history.

BURYING THE HATCHET.

It is morning. On the topmost ledge of the Pipe-stone quarry stands the Great Spirit. To east and west and south, as far as the eye can reach, stretch the prairies, green at his feet, but changing to blue in the distance, until the meeting of earth and sky are lost. There is not a tree or shrub to break the monotonous sea of grass as it rises and falls in a succession of long swells, while from the foot of the rock springs a clear, sparkling river, which finds its way far across the dreary plains to the "father of waters."

The morning sun just touches the top of a massive cloud, the symbol of the Great Spirit, which rises like a tall column, then spreads out over the prairie, like as an aged pastor stretches out his hands in benediction over his waiting congregation.

Suddenly there appears in the distance a dark speck; it moves slowly, drawing itself out into a long, sinuous line of men following closely one after another in the narrow path, now lost to view in the valley between the swells, now appearing upon a nearer summit. Soon other lines are seen stretching out from the horizon. Patiently the Great Spirit rests until the long lines dissolve on the plain at his feet, and sees with sorrow the war gear of feathers, clubs, and tomahawks. With bare, painted limbs, and faces made doubly repulsive by paint and the intense expression of revenge, brandishing knives and war clubs, they meet.

But the Great Spirit looks down upon them with pity and compassion,

"Looked upon their wrath and wrangling,

But as quarrels among children."

Then stretching out his hands over them, in a benediction of peace,

"He spake in this wise,
Oh! my children! My poor children!
Listen to the words of wisdom,
Listen to the words of warning
From the lips of the Great Spirit,
From the Master of Life who gave you.
I am weary of your quarrels,
Of your wranglings and dissensions;
All your strength is in your union,
All your danger is in discord,
Therefore, be at peace henceforward,
And as brothers live together"

They listened to his pleading, and throwing aside their war gear, plunged into the stream, where the pure water which welled up from the footsteps of the Master of Life, cleansed their bodies from paint, and their hearts from revenge; then with faces made beautiful by the spirit of forgiveness,

"On the bank their clubs they burned,

Buried all their war-like weapons."

From east, and west, and north, and south, today have gathered in this common meeting place, friends, classmates, and fellow students; and sheathed in the scabbard of social restraint, we carry our civil-

(Continued in Part Three.)

THE INDUSTRIALIST.

PART
THREE

VOLUME XXI.

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The Triennial Reunion.

The Alumni Contribute Largely to the Week's Entertainment.

The alumni address and the responses to toasts occupy so much space that no room is left for an introductory, if one were necessary or desirable. The various exercises follow under their respective heads.

The Alumni Address.

THE POSITION OF SCIENCE IN THE ACTIVITIES OF LIFE.

Prof. F. J. Rogers, a member of the Class of '85, and instructor in Physics at Cornell University, addressed the Alumni on Tuesday evening. After a pleasing introduction full of reminiscences, the speaker said:

The first thought to which I invite your attention is the definition of science. It sometimes seems to me that it needs a new definition. Every one who writes a book, especially a text-book, on some branch of knowledge, is impelled to call his little domain a science. Doubtless you remember that the "Rhetoric" which we used to study, began—"Rhetoric is both a Science and an Art." Now, every branch of knowledge is not a science, but where are we going to draw the line? The principal characteristic of science is that it deals in statements of fact that may be verified, and above all a science is a branch of knowledge upon which all men may be brought to an agreement—an agreement which does not follow because men are complaisant, but because of the compelling nature of the truth concerned.

The scientific man claims no supernatural knowledge of the processes of nature. He deals with facts that anybody can verify, if he will but take the necessary time and trouble. You do not have to gain your knowledge of the initiated. Go study nature, and you will come to the same conclusions as other students. It matters not whether you are old or young, American or Russian, Populist or Republican, Jew or Gentile; in so far as you study nature in a scientific manner you will come to the same conclusions, believe in the same laws, predict the same events.

The reason of this is that science deals with objective truth that is the same for all people. The accident of one's birth, condition, or belief makes no difference with these truths; it does not make us view them very differently.

I do not mean to say that there is absolutely no disagreement among scientific men. Discussion has sometimes raged fiercely over such questions. But these disagreements are on account of a lack of knowledge. And let me emphasize that this is not a lack of knowledge about things we cannot know, but merely an absence of information which is constantly being supplied by the results of experiment and observation.

To be sure nature always has unsolved problems, and we must expect different persons to propose different solutions. But we are perfectly confident that there is a solution, and when some fortunate investigator arrives at the correct solution we shall all be compelled to agree with him.

Science is not content to simply collect facts, as stamp collectors gather the evidences of letter writing. Not every collector of butterflies is an entomologist. The nobler occupation of the student is to discover the relations of facts. In the expressive language of Kepler, the student of science is thinking the thoughts of God. But bare facts cannot be considered thoughts any more than words are sentences. The one who would discover laws of nature and probe into causes must propound theories; and here is where we find the principal disagreement. Rival theories may seem to account equally well for the same facts, and it may be some time before crucial experiments are devised, or discoveries made, which will prove one theory false.

Science, as I use the term, has to do with those objective and subjective truths that are the same for all of us. It is continually making verifiable hypotheses; but has no right to soar into the region of the unknowable. If you want names, it is difficult to give them. Branches of knowledge are continually rising to the dignity of science. Still I should say that science stops short of philosophy; and is not broad enough to cover the forever disputed questions of society and religion.

There still lingers in the minds of some people a feeling that the science of today has something to do with the magic and necromancy of a more credulous age. But even a proof of relationship is not a test of character. Let me draw a contrast. The magicians taught their lore to a select few. Note that their magic had to be imparted by its votaries. The astrologer read fortunes in the stars, but it was an art that must be taught; no one could learn it simply by studying the stars. Science, on the contrary, has no secrets; her discoveries are for the benefit of all mankind. Take the example of the Roentgen rays, with the wonderful capacity they give us of looking through boards and human beings. This does not form the stock-in-trade of some necromancer, but the conditions under which these wonderful things may be done are described in a matter of fact manner so that you can look at the bones of your own hand, provided of course you are willing to take the necessary trouble, and have access to the requisite apparatus. The result is, that in nearly every electrical laboratory from Maine to California these experi-

ments have been repeated, while the scientific papers team with new discoveries.

Again, the popular belief fostered by the magicians was that they gained their power through some occult means—through some supernatural acquaintance with the purposes that control nature.

On the other hand, science most emphatically denies the existence of such a power, and claims nothing but what is the result of a patient and painstaking application of common sense to the study of nature.

I have contrasted, briefly, the science of today with what was in some sense its antecedent, the magic of the past. Now let me contrast it with other fields of activity. Science seeks objective truth; its goal is visible, tangible reality. Upon unquestioned facts hypotheses, theories, and laws are based. But these are considered of little worth unless they unify knowledge, and above all, unless they can serve as major premises for the discovery of new truths. On the other hand, the arts, music, painting, poetry, architecture, drama, and oratory have different aims and achieve different ends.

Science appeals to the intellect; to man, the logical machine. Art appeals to the emotions. The intellect is practically the same in all men, but the emotions are notoriously illogical. Present an imperfect syllogism to a clear-headed man, and he will see the fallacy as quickly as the college graduate, although he may not be so ready to say "illicit process of the major," or "undistributed middle."

In the world of art, there may sometimes be unity, but it is a unity due to a master spirit or a prevailing school, not a necessary unity that is forced by the nature of the subject matter. I do not mean to say anything against art. The feelings and truths embodied in art may be the deepest and noblest, but they can never command the universal assent accorded to scientific truths.

There is a class of thoughts with which men's minds are much occupied that may be just outside the borders of science. I refer to such subjects as political economy, government sociology. Now, if there are in this audience teachers of political economy or sociology, they may be inclined to claim that what they teach are sciences. But if the term is limited to those branches of knowledge on which men agree, or are always on the road to agreement, then political economy is not a science. Are the believers in the *laissez faire* school on the road to agreement with collectivists and socialists? Are their disagreements constantly being settled by the progress of investigation and discovery? These opponents may be on the road to agreement, but they are facing away from it.

Some may think that the opinions of socialists are so extreme that they ought to be classed with other fanatics who cannot keep outside the insane asylums. This may be true of extreme views, but socialistic principles are strongly entrenched in every civilized country in the world; and few things seem more certain than that they are constantly gaining ground. To be sure, socialist thinkers have not often found their way into professional chairs. But a few years ago I heard a professor of political economy in a great University say, in a public lecture, that the sub-treasury bill was a well-conceived scheme for financial relief; while he discussed socialistic arguments in no unsympathetic manner.

Suppose we turn to government: do we find agreement, or even progress toward agreement? In America, we all believe in Republican self-government. But after all we must say, "we believe." Before the whole world, we are occasionally reminded, Republican government is still on trial. Not long ago I heard a Russian Prince lecture on Russian history. He drew a striking comparison between the abolition of serfdom in Russia and the abolition of slavery in America. In the one, serfdom, a disease which had penetrated the vitals of society for centuries, was peacefully abolished by the will of an enlightened autocrat. In the other, slavery, an excrescence, or at most a diseased limb which needed amputation, was only abolished after a sacrifice of untold blood and treasure.

Suppose we turn to questions of government that are alive for us—money, suffrage, labor, temperance. Are we on the road to agreement on any of these questions? The more sanguine of you may believe that all these questions are on the road toward settlement. Some of them may be settled, but please remember that the settlement of political questions is very different from the agreement on scientific questions, which is the goal of investigation and research.

Political questions are settled by majority vote. But this does not prevent a respectable minority from most earnestly believing that the settlement is wrong; and the minority may be right. On the contrary, scientific questions are not settled so long as there is any disagreement among fair-minded men capable of forming a judgment. You see, we must make some limitation on universal agreement; for we cannot consider the revolution of the earth about the sun to be an open question simply because Uncle Jasper persists in maintaining that the "sun do move."

There is still another class of questions outside the pale of science on which man has exercised his mind from the earliest ages without any recognizable approach to universal agreement. I refer to philosophy and religion; to questions of the ultimate

nature of matter and mind, of thought and consciousness—questions on the origin of the universe, final causes, the idea of God, and the destiny of man. Why is it that there is one class of questions on which we are constantly figuring towards agreement,—questions on which we confidently hope to convince or be convinced? Why is it that the questions of art and feeling, of society and government, of philosophy and religion, are no nearer settlement than they were in the time of Elijah and the Priests of Baal? Why is it that the labor question, for example, is such a perennial question and promises to be eternal?

The answer is not far to seek. For the solution of scientific questions we appeal only to the senses and the intellect, in which all men are alike. On the contrary, this other class of questions appeals to our aesthetic, emotional, moral, and religious nature. And in these respects we are not alike. Again, in the realms of science there is no place for free will. I cannot choose to believe or disbelieve in the binomial theorem. The moons of Jupiter will not vanish because I will it. In so far as I have investigated the matter, my belief in the bacilli of consumption is not a matter of volition.

Such is not the case where the emotions and not the intellect are paramount. Here we find free will asserting its power of choice. Where is the science that can explain, to say nothing of predicting, why a certain young man finds favor on the eyes of a maiden? You may have a theory of the attraction of the unlike, but when the next case comes before you, your theory will be in the dust.

Can you predict from the shape of a boy's head whether he will be a Populist or a Mugwump? Nay, more; you may know all about the antecedents and environments of a young man about to cast his first ballot, and you cannot predict with even moral certainty what his political opinions will be a decade hence. The emotions, the social ideas, and religious aspirations and conduct are more or less under the control of the will. Here we find an element, at least, of free and uncaused choice, and man rises superior to nature and science, and partakes of the nature of God. True enough, man is hampered by his base-born ancestry; true enough he is subject to many equations of condition which are inexorable, but spite of it all there is a spark of creative spirit in him which recognizes no compulsion and bids defiance to law. Whenever science meets this creative spirit, it can but make the respectful admission that it is outside the region where science is master. The teachers of science have not always recognized its limitations. Sometimes science, in its superabundant vigor, urged on by a knowledge of its manifold victories, sweeps beyond its legitimate domain, as a mighty ocean tide sometimes deluges the land. But this only for a time; for science, like the ocean flood, when the temporary force has ceased, recedes to its bed. I do not mean to say that science has nothing to do with society, government, and religion. The ocean feeds the clouds, which are swept over the land and descend in reviving showers; the waters of the earth rushing down the mountain side turn the wheels of man's machinery, and still further down these waters unite to form stately rivers bearing on their bosoms the commerce of many nations. In like manner there is a realm where science is master, but beyond that she is the indispensable steward of man and the hand-maid of religion.

What has science accomplished? In the material world, everything. Advance in scientific knowledge is almost synonymous with progress and civilization. Knowledge is power; and one of the chief functions of science is to give man power over the forces of nature. And how grandly she has done this! I have but to whisper "electricity" to bring to your mind a few of her dazzling victories.

If science had stood still after the landing of the Pilgrims, the prairies of Kansas would be still shaking under the tread of countless buffalo, and the white man would be confined to a few fur-trading settlements along her principal rivers.

The farmer may have no immediate use for the telephone and electric light, but the produce which he sells would have no market if it were not for the railroads and telegraph; his flocks and herds may disappear unless he makes use of the discoveries of Pasteur; while the vegetable pathologist teaches him how to save his vineyard from certain destruction. Last but not least, every manufactured article about his barn, in his house, or on his back owes its cheapness, if not its very existence, to the discoveries of science.

It is idle for any man to say that science has done nothing for him. As well might one on a table-topped mountain declare that he was on a great prairie simply because nothing intervened between him and the horizon to suggest his elevation.

Some critic may say that scientific journals are filled with the results of investigations which can never be of any practical value. No one has the right to despise unpractical truths. The most brilliant applications of science, when traced to their origin, lead to the discoveries of some seeker after truth who dreamed not of their future usefulness. Last month in the electrical exposition held in New York City, a motor was driven by electrical energy generated at Niagara Falls and transmitted 500 miles by wire. This achievement was made possible by the

laboratory work of Faraday and Henry, on what seemed at the time the farthest removed from anything practical.

Years ago Crookes learned much about the wonderful phenomena accompanying an electrical discharge in a vacuum tube. For a generation these discoveries served merely to please the eyes and excite the imagination of students of physics. Less than a year ago Roentgen showed that these tubes emitted rays which pierce opaque bodies and render the interior luminous. What is the result? Hospitals all over the land are providing themselves with Crookes' tubes and exciting apparatus, while the other day we read in the newspapers that the hospital corps for the Nile expedition was providing itself with this means for lighting the way for the surgeon's knife.

Some discoveries will never have any useful applications, but we must not despise them. The mind craves truth, as the body craves food. To satisfy this craving after truth, is as much the object of science as to make two blades of grass grow where one grew before.

In the intellectual world, one of the great things that science has done is to teach us that this is a world of law; that events are the natural and logical consequences of the events which have preceded them. We no longer believe that occurrences are the immediate result of the capricious and changing will of a god or a demon. We no longer place confidence in signs, omens, and portents. And, by the way, the thought underlying the belief in omens was radically different from the importance we now give to antecedent events. The latter we consider as secondary causes, of which present and future events are the effects. On the contrary, omens were more or less clearly recognized as indices of the capricious will of the powers which controlled nature. To be sure, some philosophers believe that there is a great deal of caprice in nature. They say that even fundamental laws have the character of uncaused volition. That is, we could not logically deduce these laws as we can a proposition in mathematics; we must learn them from nature. But science has compelled these philosophers to say this "world will," which is responsible for the unlogical truths of outer existence, made its choice once for all. The "world will" is not a changing will; any future choice stands in logical relation to the first free and unlogical choice. This may be a new brand of philosophy, but it does not shake our confidence in the uniformity of nature.

This beneficent change in the intellectual world has produced great effects outside of science. It has largely shorn religion of superstition, and historical criticism, with its far-reaching results, is but the result of the application of scientific methods.

What has science done for morality? The youthful and enthusiastic might claim, everything; but this would simply be duplicating the mistakes of others. It has long seemed to me that what science has done in this direction has been mostly in a secondary manner. Let me illustrate. In our histories we are told that the downfall of feudalism was sounded by the report of the musket. The hitherto invincible knight, clad in impenetrable armor and mounted on his war-horse similarly protected, was not proof against the musket ball flying from the common soldier. In England, the despotism which followed the downfall of feudalism was soon overthrown by the power of the people, led on by their former lords. Thus we see historians maintaining that one of the principal causes of the progress from the feudalism of the Middle Ages to the democracy of our times was not the love of liberty and the consciousness of equality, but the invention of gunpowder. Has not science usually thus acted indirectly on man's moral nature? It has made much more certain the detection, if not the punishment, of crime. And this has acted as a powerful deterrent. In a much broader field, science has laid bare the evil consequences flowing from vices formerly more prevalent than now. Drunkenness, gambling, and licentiousness are far less common among the better classes than they used to be. And this is largely due to the teachings of science, sometimes impressed on the whole people, sometimes working through legislators and leaders of society.

Such advances have made men less like brutes, and the world a sweeter, cleaner, more enjoyable place to live in; but I would not rate them very high. They are not comparable to generous self-sacrifice, actuated by awakened sympathies, nor to that noble victory over self which hides no selfish motive in the background. Some one has said that man's selfishness differs from the selfishness of the brutes simply in being more reflecting.

There is one respect in which the study of science has caused a genuine and far-reaching advance in morality. I can imagine a scientist who is irreligious, who scoffs at the noblest aspirations of mankind; I can imagine one who is intemperate, immoral, or even criminal, but I cannot conceive of one who is a liar. One may read literature and study history without receiving any check on his tendency to prevaricate, but the genuine student of science is like the Father of our Country; he cannot lie. The scientist does not tell the truth from a fear of consequences; he does not tell the truth because honesty is the best policy; neither is he truthful from a feeling that it is wicked and sinful to be otherwise. No, truthfulness has been worked into his very nature by his own earnest seeking after truth. Not to tell the truth does not occur to him, or if it does, it seems futile, weak, cowardly, false to the very world of truth which he has made it a life work to study.

As to the position of science in the educational system, I have little to say. It is no longer pleading its claims and begging admission to our colleges. Indeed, in many of our newer institutions the field is being monopolized, classical and polite learning is being crowded to the wall, and in turn occupies the position of a suppliant for favor. It was impossible

in a country and age like ours, that owes so much to an intelligent understanding of nature, that its practical value in education should not be fully recognized.

One among the many claims of science in education I should like to emphasize. This is the claim that it develops the reasoning powers. To do this, science must be properly studied and properly taught. To learn facts from text-books is of little value, no matter whether the facts are about Homer, or Napoleon, or electricity. I go much further; observation and experiment, of themselves, do not make one think clearly. Mental inertia is just as possible in the laboratory as in the classroom. The student who pours chemicals from one test tube to another, draws diagrams of microscopic fungi, or determines the acceleration of gravity, may be training his powers of observation, but this kind of work may not help him to draw logical conclusions from ascertained facts. The reasoning powers can only be trained by reasoning, or by intelligently following processes of reasoning. If an observer is all eyes and ears, his retina and auditory nerve may receive impressions, but as much may be said of an owl. The successful scientist must do more: he observes with an active mind, drawing conclusions, apprehending relations, divining causes, constructing and testing theories. There is an unlimited amount of such work to be done in science. The beginner, especially in physical science, may as well make up his mind that he will be unsuccessful unless he early develops a capacity for intelligently following the deductive and inductive processes which derive theories and laws from the facts upon which they are based. I am accustomed to tell my students that success in the study of physics requires a fairly logical mind. Experience has taught me that hard work and a dependence on memory will not make up for deficient reasoning powers, or what amounts to the same thing, a lack of confidence in one's own powers. Such devotion to science enables one to acquire the form but not the substance of truth.

The capacity for reasoning is acquired by the exercise of that faculty. But we can reason, and are continually doing so, upon innumerable questions which are outside of science. What advantage, then, has the study of science? It can be stated in few words, but this advantage is none the less far-reaching and important. The superiority lies in the fact that the results of scientific reason may be verified. Nature herself furnishes answers to nature's problems. With scientific ideas, as with living beings, there is a struggle for existence and a survival of the fittest. Natural selection in animate nature has its counterpart in the results of discovery and research, which reject in an unmistakable manner the conclusions of fallacious reasoning. If you have ever had to follow a series of mathematical demonstrations, you know how important it is to be able to check your conclusions occasionally. Nature is continually furnishing such checks. The same is not true when you step into the domain of social, religious, and political questions. Here the thinker may pass from one absurd conclusion to another. If he wants confirmation, he must look for it in the conclusions of other men, who are as fallible as himself.

In that education which goes beyond the training of the hand, the eye, and the memory, nothing is so much needed and ought to be so much desired as the ability to think clearly. Sound judgment and clear reasoning were never in so much demand. Now, as never before, the people, all the people, educated and uneducated, capable and incapable, prudent and foolhardy, are thinking and acting on great social and political questions. Conservatism often seems intent upon riding the safety valve, while radicalism heedlessly shovels coal into the furnace. In view of these conditions, the crying need is that both extremes shall be leavened by men and women who have been trained to think clearly—men who are not afraid to let go of the past, and yet who know full well that the future can only be built upon the past.

I cannot refrain from pointing my remarks with an example. Yesterday I read a tirade by a man who once received my vote for Governor of Kansas. It was but a more emphatic statement of the mutterings we sometimes hear of the opposition of the East and the West. Not content with plain statements of fact, some would have us believe that the West is American, the East European; the West democratic, the East aristocratic; that the honest, hard-working West is in the toils of slavery to a bond-holding East; that the East, despising the West, cringes before the monarchies of the Old World. What a golden opportunity for a little clear thinking! What rhetoric would die on the lips of the orator if it had to pass the criticism of a little fair-minded logic! I was born in one western State, raised and educated in another. My father is a Populist Senator in a Pacific State, and I am proud to claim western birth and western sympathies. But I have lived for seven years in an eastern university town, and I do not find the people uncongenial. For weeks after reaching the Empire State I felt that Nebraska was to the north of me, and that the Father of Waters still lay between me and the rising sun. No, my friends, the people of the East are just as truly American as we are.

Yes, most of the millionaires are in the East. For the moment let us admit that they are as black as they are painted. How many of them are there in the State that contains Wall Street? Perhaps a beggarly six hundred. Form them into a marching column and they would barely reach across the campus. How about the other 5,999,400? Form them into a marching column, thirty-six inches from back to breast, and the van would be descending the western slopes of the Cascade mountains before the rear guard was out of sight of the Statue of Liberty.

Go read the story of Sodom; what fraction of the people would have saved it from destruction? About the same fraction that some frothy demagogues require in order to condemn the older commonwealths

of our beloved Fatherland. What a height of absurdity is it that will condemn a great State because a Vanderbilt weds a Marlborough! Think you that New York's 6,000,000 glory in such an alliance? No, five millions, plus several hundred thousand, feel about it as we do.

If the feeling that the East is un-American is gaining ground, believe me, it can be traced to two sources, both of them foes of truth. What are they? Demagogism and imbecility. Our brothers of the East and West may differ upon political questions, but in the sacred name of truth let us not foster the damnable heresy that opposition to our beliefs springs from contempt with motive.

So far I have said little or nothing against scientific tendencies. To begin with, we must admit that a purely scientific education is unsatisfactory. It lacks something which is supplied by what some delight to call the "humanities." The study of science may make one learned, but to be cultivated is something more than to be learned. I sometimes rebel against the "culture" which some people are so fond of talking about. But this term probably covers an intangible something not to be obtained in a purely scientific education. Tyndall has said that no great truth can be adequately stated without doing apparent injustice to some other truth. Now I do not feel capable of doing injustice to science, much as I should like to be able to adequately express the incompleteness of an education which knows nothing else.

There is one tendency of science which I have some difference in presenting. Among scientific men, disagreement and contention are the exception; agreement, the rule. There are no well-marked parties corresponding to conservatives and radicals. In time this has its influence, and generates a disinclination to argument and contention. The work of the scientist is usually impersonal, and seldom touches the deepest feelings. As a result, he learns to keep cool and weigh opposing evidence. Now, to honestly appreciate the strength of both sides of an argument, is destructive to the advocate.

To be sure, there is need of just such a balance wheel to regulate the accelerating and retarding tendencies of radicalism and conservatism. Still, inertia is not an admirable quality. It never initiates reforms. They are due to character of a different stamp. Social and political progress we owe to men who are terribly in earnest; who believe the salvation of society requires the success of their principles, and who have scant respect for the opinions of their opponents. We must have thorough-going radicalism and conservatism, and not united in the same person, either. Independents are good in their place, but if we should all turn mugwumps, stagnation would result.

The tendency of scientific education which is most deplored is the tendency toward materialism, agnosticism, and unbelief. Some deny the tendency, others glory in it; neither is admirable. I do not mean to say that science leads to infidelity or justifies agnosticism; but to deny the tendency is to show your ignorance. What in our generation has given the most powerful impetus to the motion away from the church? You cannot blame the philosopher this time; neither is it due to Ingersollism, that disturbs light minds or fans the flame already kindled. We all know that it has been scientific discoveries and speculation based thereon.

Every great discovery compels a re-arrangement of our ideas about nature. Many of these discoverers, from Copernicus onward, have compelled us to look upon nature in a way different from that in which, as it had been thought, religion required. The result has been apparently to shake the foundations of belief. But the Christian religion has risen superior to this danger, and shown itself capable, though often somewhat tardily, of reforming its ideas of nature to include whatever new truth science may discover.

This is hardly the most serious aspect of the tendency away from religion. The student of science feels that he is in a world of law. He is accustomed to look for proof; he requires evidence to be of the nature of demonstration; he wants visible, tangible proof that compels assent. Now, religious truths, as Drummond says, will always remain "doubtful;" the evidence upon which they rest is inward experience. This does not appeal to the intellect; nevertheless, it comes to some with all the force of revelation, far exceeding in power the effect of logical demonstration. For others, the inward experience of religious truth is practically non-existent, notwithstanding an intellect as acute as the best.

The agnostic is right when he says he knows nothing of God and a future life, if he means by *know* that kind of evidence which is capable of appealing to the intellect. But he makes a great mistake (a mistake easy for the student of science) if he thinks this insight and experience of the soul is of little worth because it cannot be formulated to take its place among accepted verities.

Again, the scientist concerns himself with the nature that immediately surrounds him. He traces effects to causes, explains the mysterious, and is constantly reducing the marvelous to mechanical laws. In this he has been wonderfully successful. Should we be surprised if this success sometimes breeds arrogance? He deals with links in a chain. What wonder if he sometimes fails to comprehend the meaning of the end of the chain?

There is a field where science is master, and another where she is only a servant. The so-called conflict of science and religion has been due to man's failure to recognize the simple truth. In the past, religion has encroached on the field of science, has tried to base religious truth upon statements in regard to nature which may be proved or disproved, and has suffered thereby. Science, too, in the more recent past, has, flushed with victory, sometimes acted the part of master where she is only servant, making assertions and predictions which, from their very nature, can never

be verified. Retreat is inevitable, and every true scientist will hasten it.

Science cannot answer all questions. We are surrounded on all sides by the unknown, if not the unknowable. Take any branch of science, and follow step by step over the path of previous investigators; and when you get as far as they have gone, you will have reached no finality. Carry out your own researches, enlarge the boundaries of the science you have chosen, no matter how great your success, you will only succeed in enlarging the boundary which separates the known from the unknown. In your progress you will almost certainly encounter problems you can never hope to answer. If you study astronomy, you may observe that the stars are not uniformly scattered over the heavens. Believing the arrangement not due to chance, you will wonder what is the plan of the universe, or, observing that the visible stars continue to increase as telescopes more powerful are constructed, you wonder if there is no end to the universe of God. In physics and chemistry, we learn much about molecules and atoms; as to their motion, we are pretty certain; as to their numbers and dimensions, we have justifiable speculations. But as to what the molecule is, in itself, all is pure speculation. If the vortex ring theory should be put on a firmer foundation, we would wonder what started the motion and what is the nature of the frictionless fluid.

In biology, we will doubtless forever continue to ask, "What is Life?" Spencer's definition, that it is a continual adjustment of internal relations to external relations, is but a dry formula. It gives us no insight into that power which organizes matter and directs the blind forces of nature. Life has always eluded the microscope and scalpel; and practice vivisection as much as we will, it will probably continue to come and go in just as mysterious and inexplicable a manner as ever. If we turn to man, added to the mystery of life, we have the mystery of mind, conscious of itself and speculating on its surroundings. We may study the laws of its action, we may define it by some formula; but we cannot tell whence it came or whither it goes. Is each mind a fresh creation, or is it like everything else, derived from something which preceded it? Does the mind live on after life has ceased? Does it, unlike the body, refuse to be resolved into its elements? Does it rise superior to death and change? Does that which had a beginning never have an end?

Or, looking at nature as a whole, and thinking of nature as a whole, and thinking of the relations which science has discovered, we may ask, Is nature an organic whole, a unity with a life and soul that explains the unity of it all? These are questions which science itself suggests. But we can never answer. They show us that the realm of science is not unlimited, but is like an island surrounded on all sides by an unknown ocean.

Still another phase of man's questioning nature, science fails to satisfy. Some one may say, true enough we know how a lump of coal the size of an orange may transport a hundred oranges from the tropics to our table; but do they do us any more good than the apples which we pick from the trees? Science has made it possible for most of us to wear silk and fine woolens, but are we any better protected from the weather? We know how to turn night into day, but what is the advantage beyond allowing us to lag still farther behind the sun? Science and invention have enormously expanded the farmer's capacity to produce and shrunken the size of the globe over which this produce is to be distributed. But the cheap chromos on his walls, the cheap glassware on his table, the expensive machinery in his barn-yard, the cheap newspaper, the better implements, the score of labor-saving devices in the home, his ability to go to a World's Fair, if there are not too many broad States before him or too many interest payments behind him—do any or all of these make his stomach any better fed, keep his body any warmer in the winter, make his heart any lighter in the spring-time, make his mind any more free from carking care, or fill his soul any fuller of noble aspirations than was the case with his New England ancestors two centuries ago?

The sweep of the telescope helps us to make the whole universe converge upon our little brains, while the microscope enables us to converge all our powers on the bacterium at its focus. By careful analysis and synthesis, the human mind, working on numberless facts collected by painstaking investigators, has enabled us to obtain confirmation of wide-sweeping generalizations upon which the earth and man float as atoms on a vast ocean of truth. But suppose some one says with the Oriental, "I care not to know that this star spinneth about that star, or that this other one with a tail cometh and goeth in so many years." Or suppose some one asks, of what advantage is it to my soul to be able to trace backward to the time whence my life has, in the course of ages, been evolved from the humble life of the Paleozoic seas? What good can I derive from looking into the future at a cooling sun and a freezing earth, with the accompanying hopeless struggle of life and civilization against the inevitable decree of nature? Before such questions science stands dumb. If the impatient questioner reproaches science with having abdicated her universal rule of answering questions, she can but say:—I have shown you how to discover facts, how to weave these facts into broader truths, how to use these truths as an engine for upturning new facts; I have shown you how to transform a people of few wants and simple tastes into a nation full of the surging life, and shining with the splendor, of modern civilization; I have shown you how the fraction of man's mind devoted to the sordid thoughts of everyday life may be reduced, while the remainder is swept free of the nameless terrors and vague superstitions of a barbarous past, and filled with the contemplation of the marvelous machinery of this universe. As to the use, in the deepest sense, which the soul

will make of my products, I have nothing to say. Such questions involve the age-long query, "What is life for? What is the purpose of this universe? What is the end toward which the drama of life is tending?"

The Banquet.

MENU.	
Sliced Ham	Tongue Patties
Olives	Cucumbers
Rolls	Coffee
Salted Nuts	Fruit Sherbet
	Strawberries and Cream
White Cake	Fruit Cake
	Chocolate Cream Cake
Tutti Frutti	Ice Cream
	Frozen Pudding

PROGRAM.

Music, Stringed Instruments	Nordica
Music, Vocal Solo, Hoping	H. W. Jones, '88
Toast, The Regents	C. B. Hoffman
Toast, The Alumnus Rustling With the World	H. C. Rushmore, '79
Music, Chorus	
Toast, The Faculty	President Fairchild
Toast, The Class of '96	Miriam E. Swingle, '96
Music, Chorus	
Toast, The Successful Alumnus	Bertha H. Bacheller, '88
Toast, Where Are We At?	Geo. E. Stoker, '90
	Auld Lang Syne

The A lumni banquet was held Wednesday evening in Ulrich's Hall, which was beautifully decorated and made a bright scene long to be remembered by all present. Covers were laid for 300 guests. The responsibility for the spread rested with Mrs. Kedzie, who, with the aid of her lieutenants, Misses Stokes, Frisbie, Rice, Gardner, Winchip, Harner, and Castle, reduced the friction of preparing and serving to the minimum, and by their example put the waiting girls of the Cooking Class at their ease and made the service a genuine pleasure rather than a burden.

Following supper came the toasts, with Mr. Sam Kimble, '73, presiding in his most happy manner. The responses follow in their order.

THE REGENTS.

The Regents are something like the man who married the mother of a large and interesting family of big boys and girls. They are chiefly conspicuous by their insignificance. In a crowd of boys and girls they don't count for much, and if I may repeat the orator of today, they don't know as much as they did a few years ago. Still, some men of note and of parts have shared the honors. Five of the Regents have been Governors of Kansas, some have been Secretary of State, and a few State Superintendents of Education. Common every-day honorables or reverend nearly all of them are, for they all live in Kansas.

These fellows are wonderfully proud of their boys and girls of K. S. A. C., and if there is aught they can do for them you can count on the old man,—in this case the old men. They attend to the little matter of pay-rolls, investments, equipments for farm and laboratory, of hall and library. They will even lobby a little occasionally to get a Science Hall, and they promise to do some more lobbying until we get a Domestic Science Hall, a Dairy, and other equipments. Yes, these old fellows are proud of our Agricultural College, the biggest and best in the world.

True, the State has been a little niggardly towards "us farmers," and has not given us as big a piece of "pie" as our size demands. Yet we—I mean all of us, boys and girls of the K. S. A. C.—will make the institution so useful and influential that they will give us all we need. I see in the near future, on the hill up there, a stately Domestic Science Hall, and over its portals the name of one who above all others has elevated domestic economy to a high art,—Nellie S. Kedzie.

And the Regents! Well, it is a privilege and an honor to be a Regent, second only to the privilege and honor of being a student, an alumnus. Here tonight, amid a crowd of boisterous youngsters, the dignity which is supposed to attach to office or chair vanishes. We are young again. We exclaim with Richter, "The youth of the soul is everlasting, and eternity is youth." We know neither age nor rank. We are men and women in a great world with work to do. We stand for the importance of industrial education, for the well-proportioned, evenly balanced training of hand, heart, and brain.

Man has a body, but he is a soul; and that body has such an intimate relation to the soul that he can best educate the one by simultaneously training the other. There are physiological and psychological reasons why an industrial education is superior to all other systems. Industrial education means much. It is big with the promise of a glorious age. Man is destined to subjugate Nature's forces. This is the objective point of science. He harnesses the lightning of heaven. He taps the life current of the earth.

He lays one hand upon Niagara and the other upon old ocean's hoary locks, and compels gravity in fall and tide to do his bidding. Within him swells from the infinite depth of being the divine power to create. Like a God he says, "Let there be light, and there is light." He creates upon all planes—the physical, the mental, the spiritual. Note well the significance of this divine function. The physical is subordinate, but absolutely necessary. We must eat, drink, and be housed. A naked man remains a savage. An empty stomach is a foe to reason. A homeless man is never a patriot. During the dark ages, men endeavored to solve the problem by denouncing the material, by declaring the body vile and its desires wicked. Poor, blind, mistaken heroes and saints. They did not know that every desire, every ambition, every passion of the human heart, is a divine impulse towards perfection. Today we solve the problem by making it easy to supply the material wants of the body, giving us the needed leisure and strength for the cultivation of the mental and spiritual.

The world is filling up with an abundance of good things—plenty to feed, clothe, and shelter all. Hunger and want are unnecessary. They are the result of maladjustment, not of actual poverty. We produce splendidly, but we distribute badly.

The nineteenth century marks the closing of one age and the beginning of another. The age of brute force, of mechanical necessity, has closed or is closing, and the age of mind, of intellect, of reason, of love, of spirit, is dawning. The principle of evolution applied to man, to all the departments of human activity, to language, history, religion, art, and ethics, and hand in hand with it the principles of that other significant discovery of modern science, viz., that all forces are correlated,—are but different manifestations of one primal force—has given a broad, permanent, and fertile basis to science, from which spring the wonderful discoveries and inventions that are rapidly and irresistably sweeping the present order out of existence.

The recognition of the essential unity of the universe, of all things, of all life, of all force, which Pope in his essay on man summarizes in two lines—

"All are but parts of one stupendous whole,
Whose body Nature is, and God the soul!"—
enables, aye, compels man to rebuild his conceptions of life, of man, and of the Infinite. In this rebuilding it will be our glorious privilege to take part.

The recognition of the brotherhood of man and the exhaustless plenitude of Nature's gifts will obliterate war. When all have plenty, none will be greedy. Greed is abnormal fear of want. War is organized national greed. Religious intolerance and persecution will be unknown; for man will love his neighbor as himself. He will refuse to ascribe to the Infinite Father characteristics which we reprobate in the savage. Crime and vice will disappear with ignorance and want, whose progeny they are. The question which comes thundering down the dim vista of the past, "Cain, where is thy brother Abel?" will not be answered by the sneer so prevalent today, "Am I my brother's keeper?" Society will feel that it is responsible for the well-being of its members.

Recognizing unity and love as fundamental facts of life, you have a permanent basis for your life's work. We need waste neither time nor energy in fighting imaginary devils, in destructive work. "He who is not against us is for us," said the great Master. Build up. Undesirable things rot of themselves. It is Nature's law.

Man's duty, his mission in life, is to elevate, enoble, advance, the general, the common life. He must forget himself in the greater man; for with, and in, and through that greater man, Humanity, each of us lives. It is of no consequence what our surroundings, our calling, our opportunities in life are, so we do the best that can be done wherever we are. It is as noble and necessary to grow potatoes as it is to write books, compose immortal songs, or make laws for a nation. If we are part of one great entity, humanity; if really and truly we are brothers, sons of one father; if we are dependent and interdependent one upon the other, all that is required is that we do that well which it falls to our lot to do, and our reward will come in greater growth and vaster reach as surely as sunshine and rain bring forth the fields of grain. We will thus hasten the glorious day—

"When the glad slave shall lay down
His broken chain; the tyrant Lord, his crown;
The priest, his book; the conqueror, his wreath,
And from the lips of Truth one mighty breath
Shall, like a whirlwind, scatter in its breeze
That whole dark pile of human mockeries;
Then shall the rule of mind commence on earth;
And starting fresh, as from a second birth,
Man, in the sunshine of the world's new spring,
Shall walk transparent, like some holy thing."

THE ALUMNUS RUSTLING WITH THE WORLD.

I am glad, Mr. President, that my coming here to this banquet enables me to speak intelligently and with authority, in an entomological sense, at least. Yesterday I asked my friend Popenoe if it were true that a bumble bee is biggest when born, and he assured me it was so; that when born he is considerably "puffed up" and afterward "dries out" and becomes smaller. This being true, I presume I can properly say that the average alumnus is both like and unlike a bumble bee. The likeness appears in this, that both are biggest when born. They are unlike, in that the bumble bee knows that in his business he is to be a success, whereas the alumnus knows he is to be or not to be a success. That's the difference.

When we were first born into this world of "Allumnuses" and "Alumnuscusses," the question with us was, "What shall we do with the world?" It was the world "rustling" with us. In the process of trituration and demolition finally brought about by old Mr. World, it appears that the process of "rustling" has been reversed, and we are the people now on the run, while the tornadoes of inexorable fate have said to

us, "Get up and hustle," or else retire to the caves of gloom, from which "we democrats" ought never have emerged.

Fashions change. The life of the average alumnus can be illustrated by a comparison. In 1866, the female alumnus, dressed in the height of style, represented a cone. There was as much as three yards of material in the waist and sleeves of her dress, and sixteen in the skirt. In 1896, the same alumnus, dressed in the height of style, can best be represented by an inverted cone, so that there are fourteen yards of material in the two sleeves, two yards in the waist, and three yards in the skirt. Now, this is indicative of the fact that fashions change; and so does the alumnus.

In the early, or 1866, days of his new-found joy, he represents the 1896 state, badly puffed up about the head. In the 1896 days of our alumnus life, after we have for thirty years been "swatted" hither and yon, and butchered to make several Roman holidays for an unfeeling public, we represent the 1866 style, for the swelling in our heads has largely gone to our feet, and it's a long walk around the skirt of our blasted idols of our hey-day youth. In the language of the present day, we have been punctured, and it requires pneumatic resiliency and plenty of the cement of purpose to cause us to stick, and finally "scorch" across the line separating success from defeat.

"Rustling" with the world is but another term for wrestling with the world. It really causes me pain, and I regret that it is true, to say that to some of us life has been very like the description given by old Krook, in "Bleakhouse," of those who go to law. "Keep out of the law," says old Krook, "for it is being ground to bits in a slow mill; it's being roasted at a slow fire; it's being stung to death by single bees; it's being drowned by drops; it's going mad by grains." All night long some of us have wrestled with this spectre of unrest; have been led to cry out in our distress, and to seek surcease from the disappointments of life, which seemed to have never ceased following us. Others have grappled with the giant of success, and with him have wrestled till the break of day, saying we would not let him go except he blessed us. It has been a heroic struggle. No contest on earth equals the conflict of a human soul. Success and failure are but words indicative of a condition; the condition of success and failure is measured by the length, depth, breadth, and height of soul life, and not by the rules of syntax, or the whimsicalities of every hypocritical judge of what these terms mean. A failure may be a wonderful success; and a tremendous success may be a woeful failure.

"Rustling with the World" requires backbone, sincerity, spirit, sense. An old negro preacher once read from the book of Daniel, how that Daniel himself "was filled with an excellent spine." He meant "spirit," but Daniel having been filled with an excellent "spine" "was prepared above the presidents and princes." Daniel doubtless was a great "rustler," for this same preacher informed his audience that the reason the lions did not and could not eat Daniel, was because he was "two-thirds gristle and one-third backbone." Daniel is thus a type of the successful alumnus "rustling with the world," full of backbone, gristle and hustle, good sense, earnestness. It has been said that "man possesses no majesty like earnestness." Longfellow doubtless had such a thought in mind when he said,—

"The heights by great men reached and kept,
Were not attained by sudden flight;
But they, while their companions slept,
Were upward toiling in the night."

The alumnus need never expect to be translated from a "rustler" to a rester. There is no resting, or roosting either, with success in view. Indeed, this is one reason why we have so many failures in life; there are too many who are roosters and not enough rooters. I prefer being a burning match to the most gorgeously painted conflagration. I prefer being an elderberry pop-gun, good for what it's worth, rather than a 13-inch Krupp gun full of blow-holes. Indeed, Mr. President, I will go so far as to say, that if I were an alumnus "rustling" for an office, I would consent to serve as a member of the Kansas State Board of Irrigation in this dry year of 1896, rather than know nothing of the joys of the "pie counter."

"The Alumnus rustling with the World" unfortunately becomes at times, as it were, a round mass working in a square hole, and vice versa. No matter if he be a lawyer when he should have been a horse trader, or a clerk when he should have been a merchant prince, the one predominant idea in it all has been the man or woman's sense of loyalty to duty and a tribute to love, the two angels of purpose crowning every walk of life with ultimate peace. I greatly fear that too many of us have lost sight of this sense of duty, as to no longer care for duty, but only for dividends. How much is there in it for me? Duty and love in their sanctified and energized sense make an alumnus successful in life; but duty and love both neglected and cast aside, make him a slave to a base and a frigid nature; an iceberg, bright, shining, massive, but uncongenial withal.

I am glad that the world requires "rustlers." I rejoice that "duty is the one stimulant that never fails, and never intoxicates;" that though duty "may put a black sky over a man, up in his heart may be," yet thro' it all the "skylark of happiness" may always go surging. I am glad that men are heroes, and women heroines. that the world is not large enough to conquer or intimidate us that after a long time of beating up stream, we may reach a har-

bor of such tranquility and repose as will know no dread nor fear no calamity. We will then have reached that stage of life where "rustling" and wrestling have become second natures to us, and the world will look on and say that while he or she never set the world afire, they were successful.

The Hon. Eugene Ware said this morning it was customary for all great speakers to close an address with some quotation of poetry, and that in his address he possessed the double advantage of fitting the poetry to the prose and of knowing what he was saying. So, in conclusion, I beg to quote from one of the princes of American literature, the late Dr. J. G. Holland, two stanzas of one of his poems, and I leave this thought as a beautiful sentiment for our brothers and sisters of the Class of 1896:—

"We rise by the things that are under our feet,
By what we have mastered of good and gain,
By the pride deposited and the passion slain,
And the vanquished ill that we hourly meet.
"Heaven is not reached by a single bound;
But we build the ladder by which we rise
From the lowly earth to the vaulted skies,
And we mount to its summit, round by round."

THE FACULTY.

Mr. Toastmaster, Fellow-Associates, and Dear Children: I am glad to look into your faces even to respond to this familiar toast. It seems to me that I have heard of the faculty before. Indeed, most of the reminiscences of my life are connected in some way with the faculty. My earliest recollection is of a big brother connected with the faculty, and all my college days were spent under the shadows of much older brothers in the faculty. All through my life, when the faculty was to be roasted or toasted, it has been my lot to have to stand up for that body. My conclusion is that the faculty is always a bother; it certainly has bothered me more constantly than it has you.

And yet the faculty is a sort of necessary evil. If there were none, who would apply the rod to prevent the spoiling of these children of your dear mother, the college. Who would happen around at various moments, opportune or inopportune, to check or to encourage your progress? A certain alumnus, giving the characteristics of his teachers, said of one, that his most striking peculiarity was the faculty of always happening around. I presume that happening around is the chief function of the faculty. While it is a sort of a stepmother in reputation, subject to everybody's jibe, it conveniently happens around to save the children from many a mishap; sometimes to stand between them and failure; sometimes to show the way of duty, and conveniently at the last to recommend for degrees and to sign diplomas. At least the faculty is a convenient scapegoat for all college ills.

Some of us have grown gray and bald in this service, most of us, in fact, unless it is Professor Failyer, who may be suspected of having been born so. I am beginning to feel a suspicion that I, too, may have been born baldheaded.

Seriously, the faculty is an important factor in a college. All the endowments and all the collections conceivable without a competent faculty accomplishes nothing. The personal contact of students with whole-souled men is a chief element in the college course. The sentiment attributed in various phrases to President Garfield, that to sit on the end of a log with Mark Hopkins would be a liberal education, expresses the true influence of a genuine faculty. A united faculty of earnest men and women can make any institution a success, while disunion and distrust in a faculty brings disaster. Regents may come and go—a class of them may graduate yearly—without serious disturbance; but the faculty must remain a substantial embodiment of continuous policy and stable ideas of education. The influence and power of the college depend upon a united and stable body of teachers.

But as I look in your faces tonight I realize that the faculty is, after all, what the alumnus make it. The children of the college in their earnest work in every calling can but give character to the college in its faculty. I should be ashamed, with all your kindly eyes upon me, to be a weaker or less earnest man than my best abilities make me. All of us can but try to be what your earnest wishes would have us. May this good influence grow with each increasing reunion till its spirit and power shall insure a stability of character in the faculty equal to all needs. When in future triennial gatherings you shall meet, as I trust you may, in a much larger room than this and upon College ground, may you be proud to meet the faculty of your making, and sustain it in all good work.

Finally, when all this struggle of preparation is over, and you shall seek admission into that better school of eternity, I suspect you will ever wish that this faculty may happen around the golden gates to afford you safe and happy entrance.

THE CLASS OF '96.

Mr. Toastmaster, Dear Brothers and Sisters: Time, with his stealthy tread, creeps softly but rapidly; change, the inevitable element of life, comes in, and tonight as the Alumni is again met to pay homage to our Alma Mater, to afford as no other way could, opportunities for the many classmates to renew friendship, we see how each has performed his work.

Change has indeed entered, new scenes about your college home greet you, old landmarks are gone, friends once present are absent, some forever, while many new faces greet you tonight.

This year there came to you sixty-six new brothers and sisters whom I have the honor of briefly intro-

ducing to you. This mighty infant class is composed of twenty-three girls and forty-three boys.

Other classes have had their bright ones, we claim the brightest; others have their tall ones, I think we have the tallest; others have their beauties, we claim the prettiest girl of all; other classes have been "Jumbos" of all preceding years, but we are the "Jumbo" of them all; other classes have had riots in class meeting, rumor may have told you that we have been the most riotous class of all. Perhaps we have been, but is it all a fault?

Individuality, the greatest character element of all true manhood and womanhood, has shown an unusual abundance in our class by the fact that sometimes in private class matters the only way to preserve peace was to show each that some cherished scheme must be in part given up; the only way to gain unity was to compromise. But all this strife is passed, forgotten; what we once quarreled about we are now united over. We have buried our hatchet forever.

In some things, too, we have always been most surely one. In love for our brothers and sisters of the Alumni, we are such. We know, as our President told us tonight, how much you have done for us; we realize that to you, of all people on the face of the earth, we owe most for what we are today. Without you, no such a school as our Alma Mater would have existed; without you improving your opportunities, no good record would be found of this school; without you showing to the outside world the possibilities of this college, our parents never would have sent us here, sixty-six of us never would have met as we do tonight.

For this we honor you, but not for this alone. Do not think that your kindness to us in more ways than one during this year has been unheeded and is now forgotten. Far from it; we appreciated all. Words cannot express our love for our brothers and sisters.

And we as a class are united in the love for our Alma Mater, for her who has raised us from awkward children of the soil, blind to the beauties of knowledge, heedless of the pleadings of nature to be explored and examined, into what we are now, little as that seems tonight, as we set ourselves ready to meet the realities of life tomorrow. You who have been from these halls, who have met the hardships of life, have gained a broader knowledge of the world's ways and are again returned, can have no purer, no deeper, no more earnest love for our Alma Mater than do we, the sixty-six members of the Class of 1896. Honor her we ever will! And with you, brothers and sisters, we will ever strive for her betterment. We are indeed proud of our Alma Mater! Proud to say with you, we are her children!

Believe us sincere, in the modern rather than the original meaning of the word, when you heard us say yesterday,

"To 'Ninety-six for aye,
To 'Ninety-six for ever,
To 'Ninety-six and K. A. C.
We'll every one be true."

THE SUCCESSFUL ALUMNUS.

The class of the three 8's is greatly honored by the Alumni Association, for twice has the name of one of its members appeared on this program. I fancy my friend Mr. Jones has passed through the experience of other noted singers, and has soliloquized,—

"I sang a song for all the world to hear,
It rose and fell, and reached no listening ear;
I sang again for my own heart alone;
The earth resounded with its mighty tone."

I grant that the successful alumnus is not confined to either sex, nor to any one trade or profession. In glancing over the summary of the graduates of our beloved Kansas State Agricultural College, I find that, exclusive of the remarkable Class of 1896, 290 men and 152 women represent the association. The test of the work of any educational institution is the success of its students. Judging from this standard, I have wondered if our able corps of teachers, whom we are delighted to have with us at this time, have not felt the glow of pride as they have met face to face, and heart to heart, with those with whom they have labored so faithfully and so earnestly.

Who is the successful alumnus? Our worthy Toastmaster surely made a mistake when he said that probably I could inform you all about it, for I cannot tell. Shall we judge by the standard of wealth, position, or fame? Not exclusively. Perhaps the best I can do at this time is to suggest the test of true culture whose motto is, according to Mathew Arnold, "To make Reason and the will of God prevail." The man or the woman who stands highest among the world's worthies today is the one who has accomplished most for humanity. It is not enough that we ourselves be lovers of reason and doers of the will of God, but the successful alumnus will do whatever he can to make these prevail. It has been said, "The talent for success is nothing more than doing whatever you can do, and doing well whatever you do without a thought of fame."

The history of civilization is the history of the search for truth and of the endeavor to make the right prevail. "Not a having and a resting, but a growing and a becoming, is the character of perfection as presented by true culture."

The outward proof of the successful individual, as of the successful nation, is his ability to excite love, interest, and admiration. As we pass through our brief existence trying to increase the light, sweetness, life, and sympathy, sorrows may come that blind us for a time, and pleasures that thrill us with joy; but surely we can all join in the sentiment tonight that,

"The years have linings just as goblets do,
The old year is a lining of the new;
Filled with the wines of precious memories,
The golden was doth line the silver is."

I am sure every one present tonight wishes that every graduate of our dear Alma Mater shall not be an Early York, but a Late Drumhead.

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THE CLASS OF '96.

(Continued from Part Two.)

ized weapons, words. With these there has been many a skirmish, and some hard battles between us when the "artillery of words" has played freely. And the battles have sometimes been long and hard, "For long in the field of words we may contend, Reproach is infinite, and knows no end, Armed with truth or falsehood, right or wrong."

And they are deadly weapons, these words of ours, one volley or even one picket shot laying waste castles of friendship and every springing flower of hope and love. How often, when all was quiet, and the dove of peace seemed hovering near to find a resting place for its weary wings,

"On the dull silence breaking With a lightning flash, a word, Bearing endless desolation On its blighting wings was heard."

These, my classmates, are the weapons we have used. Professors, classmates, and fellow students have been attacked, sometimes in open battle, but too often in the deadly ambush, when wounds more destructive to peace and happiness even than those made by the dreaded tomahawk, have been made in hearts that still quiver with the pain. But in this meeting, so soon to be followed by a long, long parting, we feel the benediction of our Great Spirit over us, and as we hear faintly on the air the knell of that word farewell, our hearts yield to the gentle influence, and deep in the dark grave of oblivion we bury our weapons, those blighting words. And shall we come often to the grave, keeping it green with forget-me-nots and live-forever? No! we will lose sight even of the place where they lie, for year after year, as the fruit and leaves of our lives serve their purpose for a few weeks, or months, they will fall, covering it with the deep rich of soil experience, from which our lives will gain still greater power to grow.

And with this larger life will come a broader knowledge, a better understanding of ourselves and our fellowmen, a deeper charity. As we take our place in the world as teachers and leaders, we will be able to understand the motive of those who have been our teachers and leaders, and then shall we realize the love and wisdom of their corrections. Suffering and disappointment will come, bringing us into closer sympathy with the unfortunate.

"The more we know the better we forgive," and as we gain more of knowledge, and come nearer and nearer the perfect and infinite knowledge, anger and resentment will be lost in pity and love, and the words that are so deadly now will be changed by these magic names into messengers of peace. Then with a knowledge that allows no misunderstanding, we will at last come near the City of Trust,

"And when the mists have rolled in splendor From the beauty of the hills, We shall read love's shining letter, In the rainbow of the spray; We shall know each other better When the mists have cleared away."

CLASS POEM.

Our Alma Mater: Ere we leave thy halls, Thy storied classrooms and thy vine-clad walls, We pause and greet thee; bid a fond farewell To college scenes and friends we've known so well, Professors, classmates, students, each and all Whose faces oft will come at memory's call, As we in retrospective fancy gaze Back through the years to these our halcyon days. As we go forth to mingle in the strife Where each must battle for the spoils of life, We fain would linger. We are loth to part With old associates, and in our hearts Tumultuous emotions rise and fall. Like Janus in the Roman Capitol, We face the future, broad and fair, and yet Look back upon the past with fond regret. Not like the transient flower are college ties, That quickly blossoms, and as quickly dies; But like the oak, whose branches formed in youth Make the heart wood of future centuries' growth. Perhaps some cynic, framed of grosser earth, Shall dare to ask us: "What is all this worth?" What is a class that we should gather here To greet a new accession year by year; That orators should laud us to the skies; Musicians sing, and poets rhapsodize? What is a class! Good friend, look where you will, Where'er affection's ties are valued still, And you shall find bound fast by friendship's laws Those hearts united in a common cause. We're no exception to the general rule, The lasting friendships formed while here at school, The fond remembrances that cluster round Each classic landmark on the college ground; The sympathy that's born of kindred woe When cherished hopes decay, and grades are low; The four short years of transitory joy That failures ne'er could drown, nor cares destroy; Combine to form a bond whose subtle strength Binds us together firm as adamant. And now we stand, like many a class of yore, Facing the problems often faced before. How to appropriate with greatest ease The golden fruits of life's Hesperides; How best to utilize the knowledge gained; How to be stronger minded; better trained; How to adapt and cultivate our powers That all that's worth the having may be ours. And shall we stand in vain, and idly dream Of joys that wait us further down life's stream? Thus standing, let our chances, one by one Pass by, and leave us nought when they are gone? No, Let's be doing! Time will teach us how. The field is all the world, the time is now. The world has problems, wrongs in church and state That honest effort may eradicate. Science still opens her exhaustless store To all who will her mysteries explore. Shall not the treasured lore of ages past That round our lives their glorious halo cast, Our hearts and hands to greater deeds inflame, And light our minds to higher, nobler aim? Let not the world lament for fame's decay And shroud with gloom the dawn of coming day; Nor say of great men, now far past their prime, "Only their footprints mar the sands of time." We read from nature's soul-inspiring page, That history repeats from age to age, Not circumscribed within the circle's bounds; But ever growing, widening round by round,

And as it widens, making room for those Who have new thoughts, new treasures to disclose. So we who've finished college, we presume To face the world and ask for standing room. We know that disappointments lie in store, That hopes will fade, as oft they've done before; And yet, we hope, for 'tis the joy of youth To make the fancy real as the truth, That the long past with all its triumphs won May but the preface be to what shall come. Still let us hope that in the future years In spite of obstacles and doubts and fears, Our deeds may stand through ages yet to be As mile-posts set for our posterity. Old men may laugh at our ambition, men Who've trod the rugged ways of life. What then? We care not for their contumelious scorn; Our judges are the ages yet unborn. Then, "Take no footsteps backward," let the words Of this our motto, evermore be heard Urging us on to higher destinies. To broader lives, to mansions in the skies. In truth and justice may we e'er abide, Our Nation's hope, our Alma Mater's pride. Let those content to live in narrower lives, Who doubt the skill that college training gives, Stand back and watch, as on the world we fix Our hand and seal, the Class of 'Ninety-six.

APOSTROPHE, "OUR ALMA MATER."

Forty-one years ago, in far away New England, a little company of men and women left home and friends to start on a long journey westward. By a singular coincidence, a Cincinnati company set out at the same time with the cry of "Westward Ho!" These two companies, each ignorant of the other's existence, arrived at their journey's end, one in March, the other in June, 1855.

They found themselves in a beautiful sheltered valley which was lovingly guarded by bluffs, and bounteously watered by two converging streams. This valley was still unsettled, and not many years had passed since the Indian hunted among the hills, and the buffalo quietly grazed upon the rolling plains.

Within the New England colony were several college bred men. During their long journey, they had whiled away many hours making plans for founding a college in their new home. These plans were delayed, however, until 1857, when an association was formed to build a Methodist Episcopal college in their little town of Manhattan. In 1858, a charter was obtained for this institution. In that charter, provision was made for an agricultural department to experiment in the raising of crops, and to test the capabilities of high prairie soil. The corner stone was laid in May, 1859, and the school was opened a year later.

After the passage by Congress of the "Morrill Bill" in 1862, it was changed, through the strenuous efforts of its friends, from a denominational to a State institution. In 1873, when Hon. John A. Anderson became President, he made a radical change in its policy. Among other things, the classical course was discontinued, and the departments of agriculture and mechanic arts were added. After thorough investigation, President Anderson discovered that ninety-seven per cent of the people of Kansas were in the various industrial vocations, and only three per cent in the learned professions. In reference to this he said, "Prominence is given to the studies that are most useful to the professions, instead of to those that are most useful to the industrial pursuits. This should be reversed, and the greatest prominence given to the subjects that are the most certain to fit the great majority for the pursuits they should and will follow." From that time the school has conformed to these ideas. Though difficulties, many and great, have been encountered, the college has prospered and developed. Buildings have been erected, new professorships established, and excellent apparatus obtained, until it stands without a rival of its kind in all the world.

The history of this institution is a testimony to the wisdom of him who mapped out its course. Here, year after year, young men and women have come and passed out again into the world, fully prepared to meet the stern realities of existence. They were neither dreamers nor book-worms; their practical training has fitted them for the practical duties of life. With pride we point to the fact that no other Kansas college shows so large a percentage of graduates holding the very best positions.

The intrinsic value of this education may be shown by considering a few of the things for which it fits students. By unhappy experience, people have learned that unskilled work, even though it be on the farm or in the dairy, produce little but failure and disappointment. The agricultural productions of our State have won us an enviable name. Kansas farming has been in the main eminently successful. Not alone the abundant sunshine and the productive soil have contributed to this success, but the presence within our boundaries of this school which teaches the farmer how to be a farmer. In his stead, it takes the risk of experiments, which to the single individual might mean loss and disaster. As one of our professors has said, "The college makes skilled hands the tools of thoughtful brains by teaching the student the right thing to do and the right way to do it."

Nor does our generous Alma Mater consider her duty discharged when she has given of her rich store to all those who come to her. This is the educational fountain head, but its waters tarry not here. Its beneficent streams flow to the farthest bounds of our State. During the entire year, our professors, by lectures and farmers' institutes over the State, impart to those who cannot come hither, the results of the ex-

perimental work done here. Doubtless none have numbered ours among the schools of art, yet one has said, "Agriculture is the greatest among arts; for it is first in supplying our necessities. It is the mother and nurse of all other arts. It favors and strengthens population; it creates and maintains manufactures; gives employment to navigation and materials to commerce. It animates every species of industry, and opens to nations the surest channels of opulence. It is also the strongest bond of well regulated society; the surest basis of internal peace; the natural associate of good morals." Since, then, this is strictly an agricultural school, does it not contribute to all that makes a happy, prosperous people?

Dear Alma Mater, our faces are set toward the wide, wide world. Yet, ere we pass out from thy hallowed presence, we turn for a loving glance and a tender farewell. Thy dear, happy scenes of grove and hill and shady lane and fragrant blossom! How often from the heat of life's noontide hour shall memory turn to thee with tender longings! Life shall bring to us no stronger friendships, no simpler, sweeter joys, no cheerier duties than those that thou, beloved mother, hast in gentle forethought given us. To thee do we owe the stores of wisdom we have treasured up; to thee do we owe the development of mind and heart whose rich outpouring we trust may bless the world. We pass away to mingle with the busy, restless throng, and others shall come to take our places as thy children. Yet in our hearts shall thy memory be fondly cherished. For all that thou hast done for us, we can repay thee only by being the true, earnest men and women thou wouldest have us. Long may thy sacred halls stand open to welcome all who come to thee for wisdom. Long may our sunny State be blessed by thy ennobling influence on its sons and daughters. And now once more, our Alma Mater, our gentle guide, our strong, unselfish friend, farewell, farewell!

CLASS SONG.

From out the realms of Preedom,
From country and from town,
Four years ago we gathered
To win the student's crown.
We came because we wanted to,
Or 'cause we had to come;
We cared not for the others,
But just for number one.

Chorus.
For then not one of us could say,
To '96 forever,
To '96 for aye,
To '96 and K. A. C.

We'll every one be true.
We've struggled up through first-year,
Through second and through third,
We've had our little trials,
But have not been deterred.
The rounds of wisdom's ladder,
Too round have been for some,
But we've climbed on and left them,
And to the top have come.

Chorus.
But in this time we've learned to say, etc.
Within the College class rooms,
Upon this Chapel floor,
Four happy years have ended;
We wish there were four more.
And now upon the rostrum,
We all together stand,
The biggest class, the brightest class,
The happiest in the land.

Chorus.
For every one can sing today, etc.
We'll miss our kind Professors;
We'll miss the College bell;
How much we'll miss each other,
Mere words can never tell.
It may be that together,
We all shall stand no more.
Until we stand united
Upon the other shore.

Chorus.
So in farewell we all now say, etc.

VALEDICTORY.

The morning of youth advances toward noon. The shadows fall obliquely toward the west. A dreamer—eager and expectant—oblivious of today's demands, paints in glowing hues, with the fateful pen of fancy, the landscape of the future.

Fascinated with the mysteries of the unseen, he gropes with one hand into the darkness for a revelation, while with the other he holds on to the familiar things of life. Too immature to even form an estimate of the immensity, to indifferent to calculate the swiftness of the changes which forever manifest themselves in the crafts and dealings of humanity, thoughts of the real essence and force of life, of its responsibilities, its earnestness have not represented themselves in their complete seriousness and sternness to this idealistic dreamer.

Like as the airy cloud that floats softly and dreamily below the pure blue of heaven, brightened and illumined by the glow of sunlight, drifted here and beyond by the fitful winds of the air, so is his young life; only as yet its transcendence is unnoted, its latent force still bound by its impenetrability, its mysteries still unfathomed.

The petty triumphs, the unenduring success, are the morning and evening stars of his existence. Disappointment and sorrow, the initiatives into the vast and mysterious domain of the unknown, the bitter sources of life's deepest stings—have left untouched his warm and tender senses. The true color of things and events presents itself in the sunlight whose dazzling brightness obscures what may be more easily discerned through the dim shades of twilight.

His hours are saturated with buoyant hopes, his moments jewelled with joy; and sweet possibilities, like pearly pendants, array themselves before his eager, watching gaze.

In this hopeful season of springtime, he imbibes the teachings of God, of nature, and of mankind, as

a preparation toward realizing his ideal, the goal of his ambition.

But there is a time in his life when the sunlight refuses to brighten the cloud, and then comes the sudden and terrible revelation of its mystery, its power and its transcendence. Then are its avenues clothed in blackness, its forms fantastic and unreal; then are the ardent desires of ambition, the follies of pride, lowered from their loftiest heights of expectancy into the deepest depth of resignation.

The awakened dreamer strives in vain to look beyond the darkness into the light. He cries aloud, but the only answer is an echo to his mournful cry. Beyond is silence. But in the night of gloom, hope sees a star, symbolic of the golden dawn of a glorious day,—torch-light of advancing resolves. He glances in retrospect over the past, and his thoughts grow in breadth and depth. Calmly and earnestly he views his career, building, as time glides unceasingly by, a broad and powerful foundation for the erection of a mighty purpose; toiling and hoping with infinite patience, and undimmed vision, trusting with noble faith. On this foundation stands the Goddess of Destiny, to adorn with a crown of olives, or to cause the attendance of defeat, according as the builder has designed for the peace and ministry of other lives, or for a selfish end.

The life of every human being is a day dream and an awakening. Thus far have we idealized; tomorrow we welcome our Commencement Day with mingled joy and sadness—joy in that we assert our independent individuality, and go forth to share in the world's commotion; sadness, because we never forever the formal ties that have united us here.

The world of our happiest, gentlest memories have been the years spent here together in intellectual gain; and as the twilight of these years saddens into night, we turn backward to these walls that for so long have been our home, and for the last time dream of the great dim life with infinitude of uneven paths, upon whose platform we mingle with other characters in the same scene the close of which must be a tragedy. The infinite greatness oppresses and appalls us. The nearness of the vast, uncertain future makes us to feel the more our incapability to cope with the problems of life, make us to feel the deeper the utter bareness of what we really are.

We have finished the lessons in our school of preparation; we go now to learn the sterner, more vital ones of life. The education which our collegiate training has given us is at most only a firm basis upon which to build stronger, more powerful structures. We approach nearer to our ideal existence with the idea that we know in part, and then "follow knowledge like a sinking star beyond the utmost bounds of human thought." No longer do we build in fancy airy castles; but with shield and gauntlet, firmly prepared to meet the earnest, practical demands of the present with prompt and powerful action.

The once latent forces of immature youth have expanded, and though we recognize the vastness of the realms of knowledge yet unexplored, who can say but some of our number may, in the course of time, send forth ideas that "like cherubim and seraphim, spread their wings over a continent, and touch, as with holy fire, the hearts of men."

The maturer motives lead the eye and the soul to look toward the divine, beckon us ever onward toward our ideal human conception of life—our ideal not for self alone, but for all mankind. We cannot exist in ourselves alone. Our individual lives overlap and interlace into one complete, harmonious whole, as marvellously perfect in order as God's own creation—the universe.

And now, we meet together in a last farewell—a word so full of bitter-sweet, so full of hope, so full of sadness! The poet has written,

"We may build more splendid habitations,
We may fill our rooms with paintings and with sculptures;
But we cannot buy with gold the old associations."

How sadly true; yet the mystic chords of memory, stretching from every college experience to every loving heart whose life has in part been spent here, will be to our lives as the precious sands of the hour-glass; and the good angels of our natures will touch these chords at intervals as we journey onward and upward toward our lofty golden ideal—a pure, perfect, stainless life—until for us the rustling of Time's curtains is hushed forever more.

COMMENCEMENT, 1896.

(Continued from Part One.)

Websters, both honorary and otherwise, who found themselves able, amid the many attractions, to make their occupations coincide with their inclinations.

As usual the Websters relied chiefly on their wits for entertainment; only a short program, consisting of a song by the quartette and an address of welcome by E. H. Webster, having been prepared.

After the prayer and address, President McCauley, of the term just completed, who now smiled a welcome from the chairman's place, indulged the assembly in a free-for-all experience meeting. One after another, the sons of the Society, from Sam Kimble, '73, to J. B. Dorman, '96, responded to calls, and sat down to applause. Space will not permit even a mention of their names, to say nothing of the many words of good fellowship and the anecdotes, both original and historic, that fell from their lips as they breathed the inspiring atmosphere of a Webster session.

"A good time was had," and every breast carried away a happiness, disturbed maybe by the stirring of a long dormant and now hardly recognizable yearning for a "rag," but a happiness all the same.

T. W. MORSE, 95.

THE ALPHA BETA.

The Alpha Beta Society held their reunion in their society room. Prof. F. J. Rogers, '85, of Cornell University was elected chairman. He referred to the

time when he was a student in College, saying that Friday afternoon was one of the most interesting times during his college life.

J. B. S. Norton, '96, delivered an address of welcome. Twenty-eight years ago, about a dozen students met and organized the Alpha Beta Society. From this small beginning has grown the large and strong Society we now have.

Mrs. Sadie Moore-Foster, '94, responded to the address of welcome.

W. H. Sikes, '79, gave a short account of the Society work during the days when he was in College. In those days there were many interesting incidents connected with college work, one being the joint debates between the Alpha Betas and Websters, the A. B.'s carrying off the honors.

In a short speech, Miss Josephine Harper said that it was eighteen years since she was an Alpha Beta. The Society was first organized for boys only, but afterwards girls were admitted. She was with the first girls that were admitted.

Mrs. Winifred Brown-Burtis said that it was in 1884 that she joined the Society.

A solo by Mr. H. W. Jones, '88, was well rendered. Following this music, was a talk by Prof. J. T. Willard. The Alpha Betas are a serious crowd. They are the most earnest all the time; they mean business. The Alpha Beta Society has advantages over the other societies in that both sexes are represented. Men and women live together in the world, and therefore it is appropriate that they should live together in Society.

Mr. A. A. Stewart said: As we meet here in reunion we older members realize the fact that we are growing old. I see before me today some that I have seen as babies, and who are now graduates. I belong to the largest class—the class that did not graduate. I regret very much that I did not complete the course I had begun.

Mr. F. M. Jeffrey, '91, related incidents from the old society days. In looking back, I recall a number of old members, but they are not here; they are gone.

Rev. J. T. Copley made a short talk. He told of his early experiences in society work.

Mr. Jacob Lund, '83, said he was not in the habit of making speeches lately. He used to do so when he was an A. B. He was frequently called upon then to make speeches because the members liked to hear him talk, and they hoped that by giving him practice he would some day be able to speak rationally.

With this the program closed, and refreshments were served in the society room.

J. C. CHRISTENSEN, '94.

Alumni Business Meeting.

The Alumni Association held a business meeting in the chapel at 5:00 P. M. on Commencement Day, President Sam Kimble presiding, at which the following officers were elected for the ensuing year: President, Wm. Ulrich, '77; Vice-President, Lora Waters, '88; Secretary, Mary Lyman, '94; Treasurer, C. M. Breese, '87.

The resolution following, introduced by Ben Skinner, '91, was passed by the Association:

Realizing the necessity of having men who are well acquainted with the needs and objects of the institution, in order best to further and perpetuate its efficiency and economic service to the people of Kansas, the Alumni of the Kansas State Agricultural College, in regular annual session, resolve as follows:

First, that we as a body and as individuals, will endeavor, by every honorable means, to secure the appointment of a fair representation of the Alumni of this College as members of the Board of Regents.

Second, that we will do all in our power to prevent the converting of any educational position of trust into a place of political reward; but that we will fight with unrelenting zeal for the men who are best adapted to college work, regardless of party, faith or affiliation.

Third, that a copy of these resolutions be printed in the INDUSTRIALIST, or any other paper of general circulation, and that a marked copy be sent to each of the State officers, and that a special copy of these resolutions be sent, by the Secretary of the Association, to Governor Morrill.

Aside from this the Association passed several votes of thanks, among them one to Wm. Ulrich for the use of his hall; one to the outgoing officers, one to Prof. F. J. Rogers, and another to Mrs. Kedzie and Miss Stokes. A special invitation to the banquet was extended to Mr. and Mrs. Hall, of Australia.

Program of Music.

JUNE 7, BACCALAUREATE SERMON.

Traumerie College Orchestra
Hymn No. 6 By the Audience
Sacred Chorus, Hallelujah to the Father, from the
Mt. of Olives, Beethoven

JUNE 8, SOCIETY LECTURE.

Selection College Orchestra
Piano, six hands, Fantasia on Airs from Donezetta's
Operas—Czerny Misses Heider, Henderson, and Barnes
Octette, Legends Mohring
Emelie Pfuetze, Mabel Gillespie, Mabel Crump, Clara Newell,
Jeannette Perry, Tacy Stokes, Gertrude Lyman, Sadie Stingley

JUNE 9, CLASS DAY.

Overture, Promotion College Orchestra
Vocal Duet, The Fishermen Gabbeissi
Mary Lyman Jennie R. Smith

JUNE 10, COMMENCEMENT.

Selection, Dictator Quickstep—Pettee Cadet Band
Overture, The Storm College Orchestra
Glee, Now Tramp o'er Moss and Fell College Glee Class and Orchestra
Piano Duet, Overture, De Guillaume Tell Gottschalk
Lorena M. Heider May H. Bowen
Ben Hur Chariot Race Cadet Band

Graduates Present.

A list of graduates present at Commencement exercises is in type, but cannot be printed for lack of space.

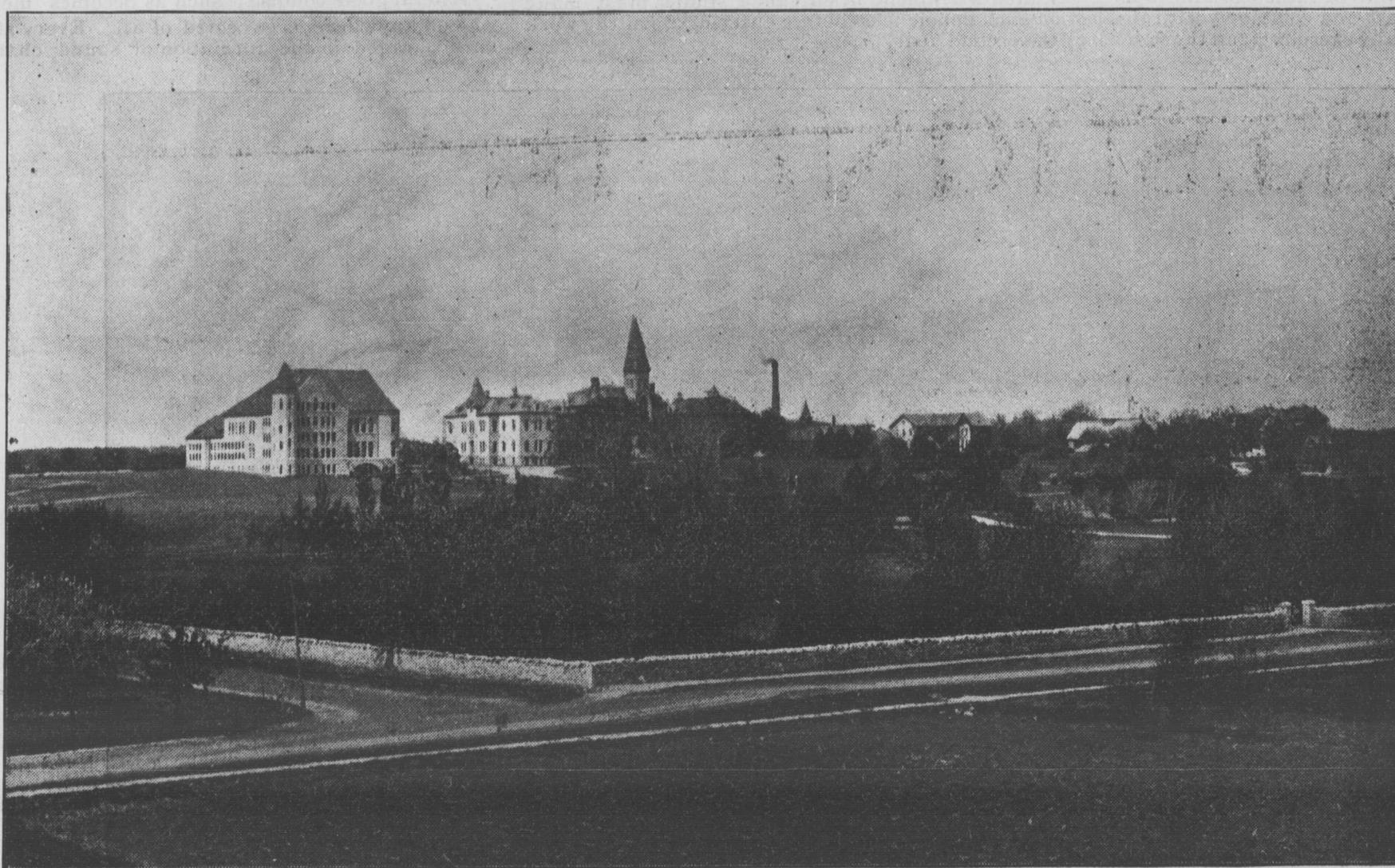
THE INDUSTRIALIST.

PART
FOUR.

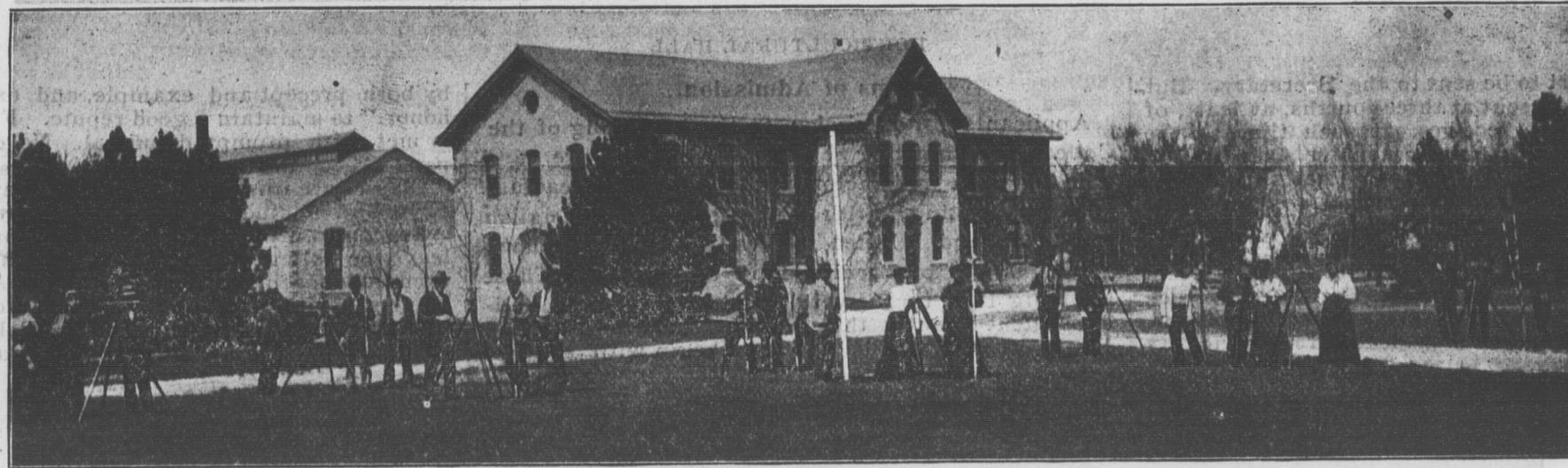
VOLUME XXI.

MANHATTAN, KANSAS, SATURDAY, JUNE 20, 1896.

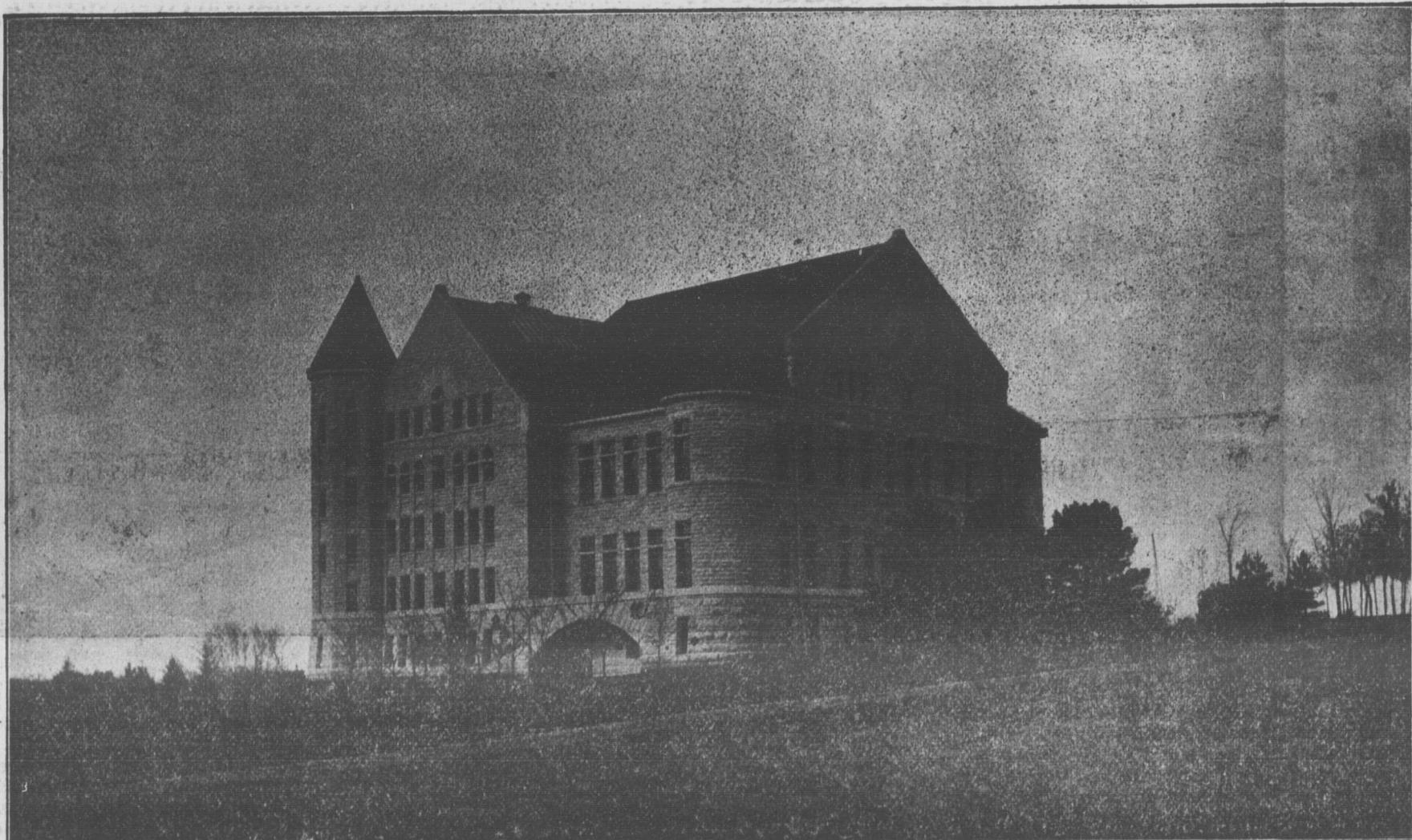
NUMBER 40.



GENERAL VIEW OF GROUNDS.



MECHANICS HALL, SURVEYING SQUADS.



SCIENCE HALL.

Examinations.

Examinations for admittance are held at the beginning of each term, as laid down in the calendar of the College year. Applicants entering at any other time during the term have special examinations. These examinations are chiefly written, and a standard of 70 per cent is required to pass any study.

Examinations in the course are held as arranged by the Faculty. The results of these examinations are marked on a scale of 100, and combined with the average of the preceding daily exercise upon the same

obtained at least two months before the examination is held. All such examinations are held under the immediate supervision of the professor in charge, and are thorough and exhaustive.

Candidates for graduation must make good all deficiencies before entering upon the work of the spring term of the fourth year.

Students are not catalogued in the third-year class unless deficiencies of previous years are provided for.

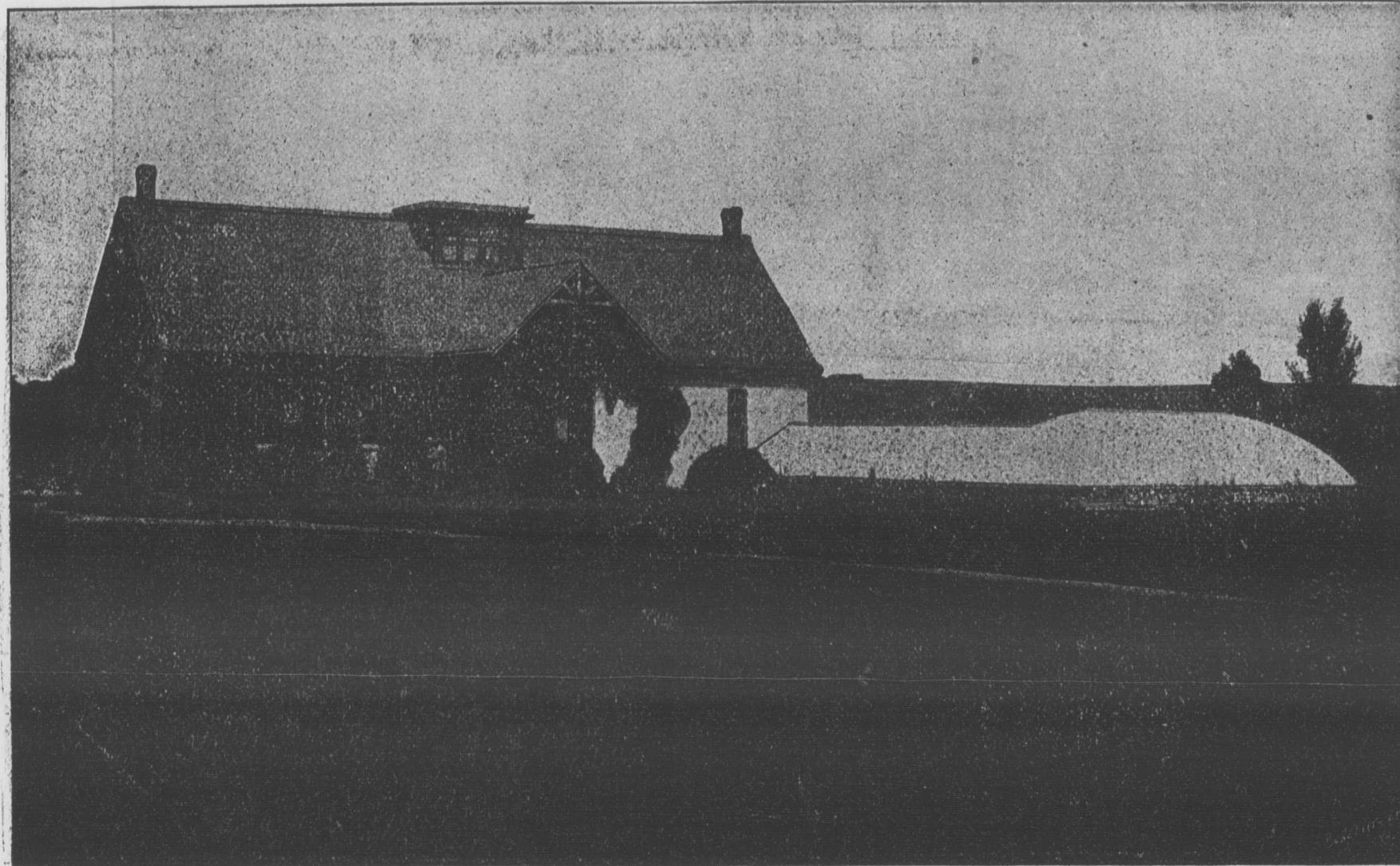
Students deficient in entrance studies must make good such deficiencies before entering upon the work of the second year.

the Faculty, when properly signed by the city superintendent.

3rd. Kansas teachers' certificates issued by the county board of examiners, showing that the above-named studies have been passed with a grade of at least 70 per cent.

General Duties and Privileges.

General good conduct, such as becomes men and women anywhere, is expected of all. Every student is encouraged in the formation of sound character,



HORTICULTURAL HALL.

Terms of Admission.

Applicants for admission at the beginning of the College year must be at least 14 years of age, and able to pass a satisfactory examination in reading, spelling, writing, arithmetic, geography, English grammar, and United States history. Specimen questions will be furnished on application. Those applying later in the year must show sufficient advancement to enter the classes already in progress. Every effort should be made to begin with the first

by both precept and example, and expected, "upon honor," to maintain a good repute. Failure to do so is met with prompt dismissal. No other rules of personal conduct are announced.

Classes are in session every week day except Mondays, and no student may be absent without excuse.

Students enrolled in any term cannot honorably leave the College before the close of the term, unless excused beforehand by the Faculty. A full and permanent record of attendance and scholarship shows to each student his standing in the College.

Chapel exercises occupy 15 minutes before the



STUDENTS GRADING CATTLE.

student, upon leaving College at the close of a term, may receive a certificate of standing.

The final grade and the term average must be at least 70 for passing any study; and any student who fails to pass in two studies of the course may either drop back a year or withdraw from College.

After completing the studies of the first year, students are allowed special examinations only upon recommendation of the professor in charge, and by permission of the Faculty. Permission for examination in studies not pursued with a class must be

day of a term, in order to advance with the classes from the first.

The following diplomas and certificates will be received in lieu of entrance examinations:

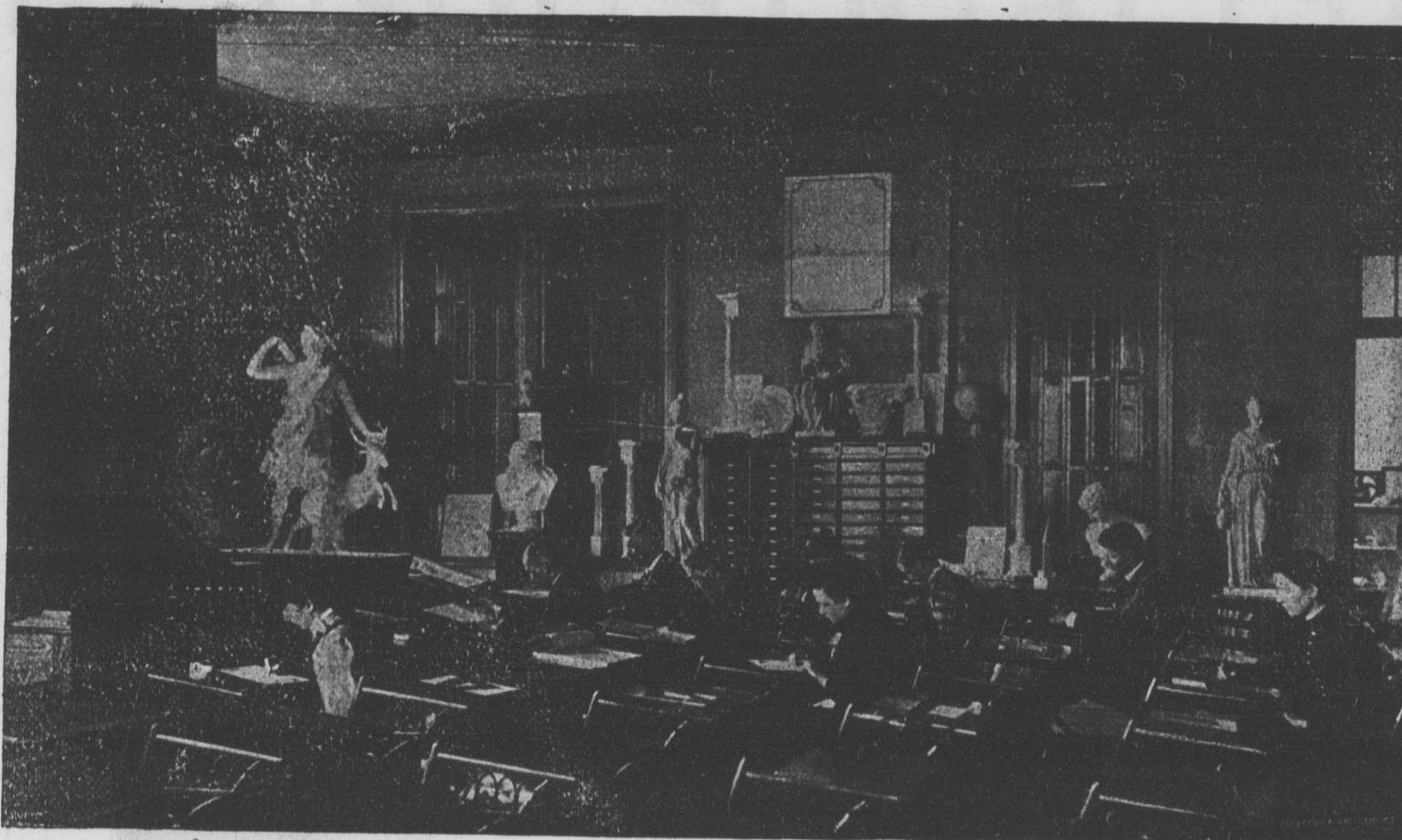
1st. Diplomas received on the completion of a county course of study which has been approved by the Faculty, when properly signed by the county superintendent.

2nd. Certificates of passing the grammar grade in any city schools with a course of study approved by

meeting of classes each morning, and unnecessary absence from them is noted. On Sunday no services are held in chapel, but students are urgently advised to attend the different churches of the city.

Every Saturday, at 1:40 P. M., the whole body of students gathers for a public lecture or for rhetorical exercises of the Third- and Fourth-year classes.

Systematic training in gymnastic and calisthenic exercises is provided for both young men and young women, under teachers appointed by the College.



DRAWING ROOM.

A FREE EDUCATION.

The Thirty-third Annual Catalogue of the Kansas State Agricultural College shows many things of interest to all friends of education. The eight illustrations show the prominent features of grounds and buildings, and the letter press gives information concerning the thoroughly practical course of study, the industrial training, expenses, and the facilities which have helped to place this institution at the head of its class in the world.

During the year just closed there were enrolled 647 students, of whom 419 were gentlemen and 228 ladies. These students represented 72 counties of Kansas and 17 other States. The graduating class numbers 43 gentlemen and 23 ladies.

During the 33 years of its existence, the College has

THE COURSE OF STUDY

Is most practical and thorough. Beginning with algebra, English analysis, and geometrical drawing, it provides accurate training in those studies which are most needed in every day life, and is strongest in those sciences which are especially related to agriculture and the mechanic arts.

A year's work in English broadens the foundation for that future character building which is possible only to him who has a working knowledge, at least, of his mother tongue.

Mathematical study is carried through three years, giving a term to trigonometry and surveying, to mechanics, and to civil engineering.

The work in chemistry, botany, physics, entomology, zoölogy, and veterinary science, conducted in laboratories especially designed and fitted for their several purposes, serves to develop those habits of inquiry into, and thought upon, the laws of nature, upon a knowledge of which, so much of success in life depends, and, at the same time, to supply facts for use in future study or in application to the arts of practical life.

Even so short a time as one term spent in study here brings direct results in

truths learned in the class-room is made to the end that the hands may become the skilled and ready instruments of thoughtful minds; that the student may preserve habits of industry and mental exertion, and remain in hearty sympathy with the work by which our people thrive. Every encouragement is given to habits of manual labor during the entire course. All such labor which is not a part of the training, and which is of value to the College, is paid for at rates varying with the service rendered, from eight to ten cents an hour.

MILITARY DRILL.

All young men of the First and Second-year classes take military drill under the direction of a U. S. army officer detailed for the purpose. Uniforms for use in drill exercises are furnished by the College, and the necessary arms by the Government.

HEALTH AND CHARACTER.

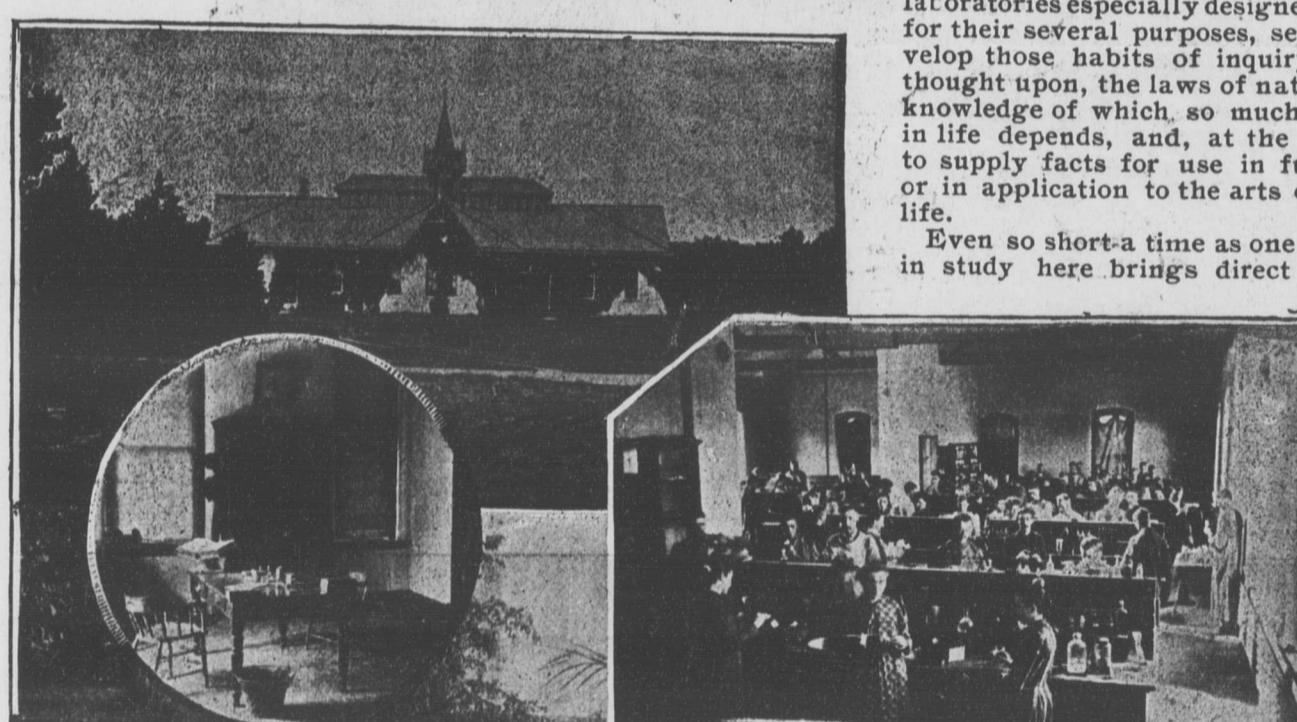
This careful blending of physical and mental exercise, together with the fact that the students are not compelled to congregate in large numbers in dormitories, has given this institution a remarkable health record; while the general character of the students for good morals and good deportment cannot be excelled anywhere.

THE LIBRARY AND APPARATUS.

All students have the freest possible access to a carefully selected scientific and general library of some 16,000 volumes, and apparatus, worth one hundred thousand dollars, is provided for use in the various scientific departments, while the work of the Agricultural Experiment Station is at all times open for their inspection, thus affording them the greatest facilities for verifying the facts and adding to the knowledge gained elsewhere by means which must help to make of them independent thinkers.

ADMISSION, STUDIES, ETC.

Students are admitted to this College, on examination, direct from the district schools of the State. Diplomas received on the completion of an approved county course of study, certificates of passing the grammar grades in selected city schools, and Kansas teachers' certificates are accepted in lieu of the entrance examination.



CHEMICAL LABORATORY.

received more than 5,000 students, about a third of whom were young women. About seventy-five per cent of these have come from farmers' homes, and after from three months to three years of study, have gone back to such homes without graduation. The number of graduates up to 1896 is 454, of whom 157 are women.

Something of the growth of the institution is shown by the following record of attendance:

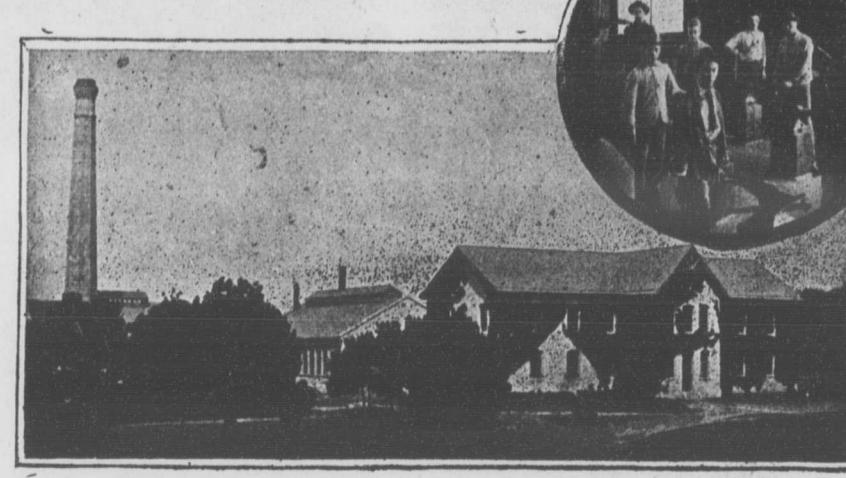
COLLEGE YEAR.	Special.	First year.	Second year.	Third year.	Fourth year.	Post- graduate.	Total.	Graduated
1878-'79.....	...	90	89	16	12	...	207	9
1879-'80†.....	...	167	61	35	11	2	276	7
1880-'81*.....	...	184	48	24	9	2	267	8
1881-'82.....	...	232	50	19	11	...	312	9
1882-'83.....	...	245	60	30	12	...	347	12
1883-'84.....	...	257	92	26	18	2	395	17
1884-'85.....	...	274	71	36	16	5	402	14
1885-'86.....	...	274	91	35	24	4	428	21
1886-'87.....	...	312	96	44	24	7	485	21
1887-'88.....	...	305	92	46	27	2	472	22
1888-'89†.....	...	266	103	41	28	7	445	25
1889-'90.....	...	307	105	63	28	11	514	27
1890-'91†.....	...	343	135	50	53	12	593	52
1891-'92.....	...	836	139	62	37	10	584	35
1892-'93.....	...	339	110	66	43	29	587	39
1893-'94.....	...	275	141	72	42	25	555	40
1894-'95.....	5	276	108	89	64	30	572	57
1895-'96.....	3	353	121	67	71	32	647	57

* Course strengthened.
† Requirement for admittance raised.

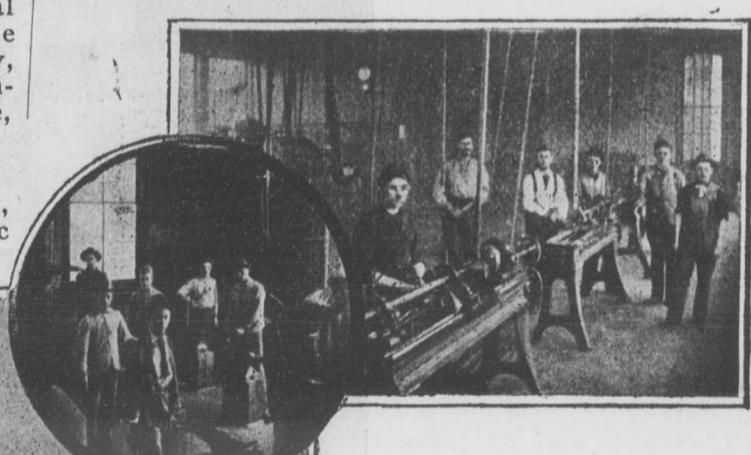
mental discipline and increased practical knowledge. The required course is four years, but by special arrangement the time may be extended with the privilege of elective study in advanced chemistry, botany, zoölogy, engineering, mathematics, economics, entomology, drawing, agriculture, horticulture, veterinary science.

INDUSTRIAL ARTS.

In agriculture, horticulture, wood and iron-work, and household economy, the application of scientific



MECHANICS HALL—INTERIOR OF IRON SHOPS.



OTHER INFORMATION.

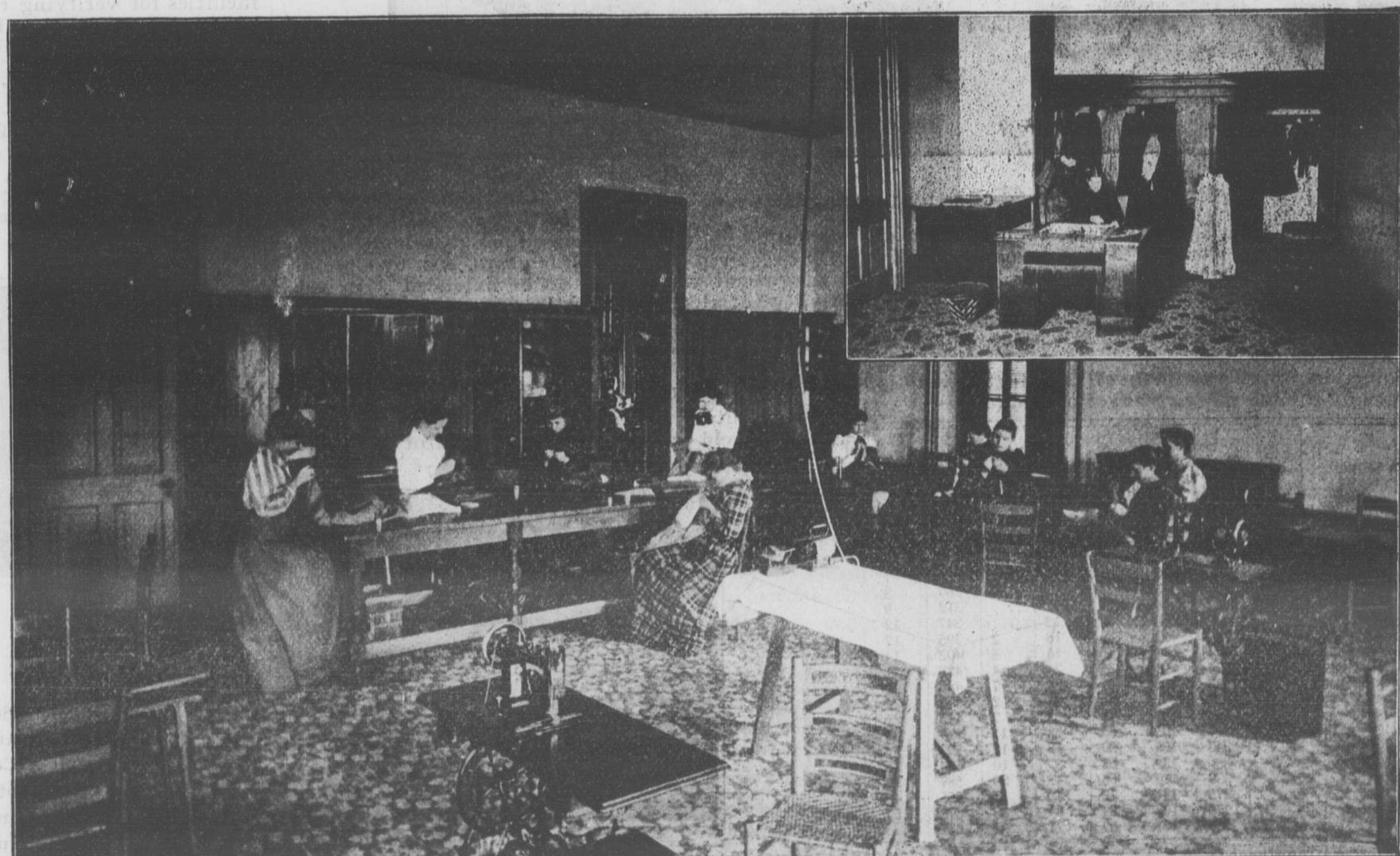
The fall term begins on September 10th next with examinations for admission. Copies of the catalogue and other points of information may be obtained by addressing the President or the Secretary, Manhattan, Kansas.



KITCHEN LABORATORY.



ARMORY, COLLEGE BATTALION.



SEWING ROOM.